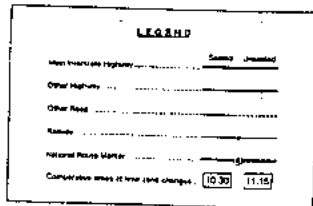


MAX ANDERSON



TWENTY YEARS IN THE FIELD

ENGINEERING ANECDOTES FROM THE MID
FORTIES TO THE MID SIXTIES

FREMANTLE HARBOUR WORKS
WHYALLA SHIPYARDS
STIRLING DAM
ALBANY AND OTHER AREAS
COLLIE
KATANNING
HARVEY
LAKE GRACE
DALWALLINU
BUNBURY
MERRIDIN
DERBY

TWENTY YEARS IN THE FIELD

ENGINEERING ANECDOTES OF THE MID FORTIES TO THE MID SIXTIES

INTRODUCTION

The following anecdotes are based on incidents which I witnessed or stories I was told whilst based as a field engineer with the Public Works Department of Western Australia in various parts of the State between 1948 and 1965. I have taken the liberty of calling it Twenty Years in the Field, which takes into account the three years or parts thereof I spent at Fremantle Harbour Works, the BHP Shipyards in Whyalla in South Australia and Stirling Dam before joining the Public Works Department in 1948.

I have purposely left out a large amount of detail about the works on which I was engaged and have only referred to them where it has been relevant to the story.

I have also restricted the anecdotes to ones which could be told with impunity. Unfortunately many of the other stories could not be put to paper.

Max Anderson

Max Anderson

April 1994

ACKNOWLEDGEMENTS

I would like to specifically thank my very good friend Jim Cundill for proof reading these anecdotes and for his constructive criticism and suggested improvements.

M.A.

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TWENTY YEARS IN THE FIELD

ENGINEERING ANECDOTES FROM THE MID FORTIES TO THE MID SIXTIES

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Imperial to Metric Conversion

All units have been expressed as those applying at the time and no attempt has been made to convert them from imperial to metric.

Currency

One pound = 20 shillings = 240 pence = \$ 2.00

Weights and Measures

Length

One inch = 2.54 centimetres

One foot = 30.48 centimetres

One yard = three feet = 0.914 metres

One chain = 66 feet = 20.12 metres
= 100 links

One mile = 80 chains = 5280 feet = 1609 metres

Area

One acre = 43,560 square feet = 0.4047 hectares

Volume

One cubic foot = 0.0283 cubic metres

One cubic yard = 0.7646 cubic metres

One acre foot = about 271,300 gallons -
= 1233 cubic metres

One million imperial gallons = 4546 cubic metres

One gallon = 4.546 litres

Weight

One ton = 1.016 tonnes

Pressure

One pound per square inch = 6.895 kilopascals

Temperature

32 degrees Fahrenheit = 0 degrees Centigrade

212 degrees Fahrenheit = 100 degrees Centigrade

100 degrees Fahrenheit = 38 degrees Centigrade

Precipitation

One Inch = 100 points = approximately 25 millimetres

CHAPTER ONE

FREMANTLE HARBOUR WORKS 1944/45

Engineering Courses

From sometime prior to 1939, the Engineering course at the University of WA comprised five years with the fourth year being spent in the field. During the war years the course was reduced to three years and the degree of Bachelor of Science in Engineering (B.Sc. (Eng)) conferred in lieu of the higher degree of Bachelor of Engineering (B.E.), on the understanding that the recipient of the lower degree would be able to complete the higher degree once hostilities had ceased. It was also understood that should the undergraduate fail to complete the three year course or should he complete the course and the war was still in progress he would be required, unless manpowered, to join one of the armed services.

In 1945, in my second year at university, I applied to join the Royal Australian Air Force, which was going to be my chosen arm of the services should I fail my course. It so happened that on 15 August 1945 Japan surrendered and World War II was over. Due to the now shortened course it became even more essential that engineering students carried out some practical work during the long university vacations.

I enrolled at the University in 1944, and spent my first vacation working as a student engineer at Fremantle Harbour Works, where my weekly gross earnings were one pound (\$ 2) and my weekly net earnings after tax were 19/11.

Harbour Works Activities

At the time I worked at the Fremantle Harbour Works, I was living with my parents at 56 Allen Street, East Fremantle. To get to work I had to walk down Allen Street to Marmion Street to catch the Marmion Street tram into Fremantle. This line, unlike the one on Canning Highway, was a single track terminating at McKimmie Street in Palmyra. To allow inward and outward going trams to pass, there was a short loop line in High Street, just below the war memorial.

There was also a second loop in Marmion Street between Allen Street and Onslow Street. The tram line in Marmion Street was laid in that section of the road reserve which now takes the east bound traffic from Fremantle. I would alight at the city terminus at the Fremantle Railway Station and then walk down Phillimore Street to the Harbour Works office, which was located behind the Fremantle Harbour Trust offices. Both offices, which must have been built at the turn of the century were timber framed warren type weatherboard buildings. A long passage ran down the centre of the Harbour Works Office, and on either side there were a number of offices occupied by engineers, surveyors, draftsmen, supervisors, foremen, dredging superintendents, and clerical staff.

This was my first introduction to the sound of pile driving and dredging and the smell of coal fires, hot steel and sisal. The three months which I spent at the Fremantle Harbour Works convinced me that I had chosen the right vocation. I was fortunate enough to see firsthand trailer suction and bucket dredging in and around the Fremantle Harbour. I also had my first involvement with the pouring of precast and insitu concrete. Apart from the carrying out of lead line soundings, I obtained some practical experience in surveying and the setting out of railway tracks and in the operation of an echo sounder in the outer harbour. Two of the projects, in which I was involved were the construction of the foundations for the grain gallery and a rising conveyor on the north wharf and the construction of a pontoon to take an 80 ton crane.

Swinging the Lead

One of the first jobs I was given was working with a survey team recording the depth of water in the Fremantle Harbour. This was carried out in a 12-14 feet length rowing boat which carried a "crew" of four. The survey boat carried a measuring reel and a sounding reel. The measuring reel comprised of a light steel cable wound around a drum, the base of which was fixed near the stern of the boat. The sounding reel was a light steel lead weighted line which was wound around a hand held wooden reel. Both wires were leather tagged at regular intervals with holes punched through the leather tags to indicate distance and depth.

At the commencement of the work the measuring line, to which a hook was attached at one end, would be secured to a pile at the wharf face such that the reading 00 on the line was at the face of the wharf. Two of the crew would then row out to a point somewhere past the middle of the harbour, using the row of piles along the pier line as a direction guide. A third member of the crew would take up the slack on the measuring line as it reeled out.

Once the start point had been reached, the two rowers would man the measuring reel and slowly wind the boat back to the wharf stopping momentarily at a required grid distance. The third member of the crew would handle the lead line regularly sounding the harbour bottom as the boat slowly inched back to the wharf face.

My job as the recorder or bookman was to enter the distance and depth into a stiff covered sounding book as the figures were called out. At the start of each run I also entered the pier number at the wharf face as a part of the grid reference and the time. The time was essential to allow the soundings to be later reduced to their true depth below the Harbour Datum, which was low water Fremantle. The information was derived either from a visual reading of tide gauges located at the wharf face or else from the run off sheet from the automatic tide recorder housed in a surge free well within the harbour. The information so gathered was then plotted on sounding grid sheets back at the office for the comparison of pre and post dredged depths, the calculating of siltation or erosion or for determining draft limitations on vessels using the harbour.

Submarines and Cotton Waste

In the summer of 1944 the war with Japan was still on and Fremantle Harbour played a very important role in the sea link between Australia and the war zone just to the north of us. As one of the uninformed public through censorship and as an 18 year old I must confess that I was not fully aware of how critical those war years were for Australia in general and this State in particular.

I remember well how crowded Fremantle Harbour was, with all berths being fully occupied with tankers, supply ships, cargo ships and naval vessels. In particular I recall the American and allied submarines which were moored three and more abreast alongside the north wharf just down harbour from the then existing grain berth.

On one memorable day in January 1945, with the temperature well over the old 100 degree mark we were carrying out routine soundings across the harbour, having to dart in and out behind the towering rusted bows and sterns of vessels clinging along the wharf face, rowing out to midstream, winding ourselves back to the wharf face and then repeating the process over and over again. There were dozens of American submarines moored along the wharf face not far from where we were sounding. A large grain ship the Panamanian was loading wheat at the grain berth.

And then it happened - A small explosion, a puff of black smoke and a red flame - the water was alight.

On one of the submarines moored about three out from the wharf face, repairs were being carried out to the conning tower. The work could have involved the fitting and brazing of some part near the hatch. As was often the practice then, the welder had kept a piece of smoldering cotton waste at hand to relight his oxy welding torch as and when required.

On another submarine nearby the bilges were being pumped out, perhaps with the intent of the discharged oily mixture leaving the harbour on the outgoing tide.

It is believed that the smoldering bit of cotton waste was dislodged from the deck of the submarine, fell into the water and still smoldering floated downstream to mingle with the oily mixture being discharged from the submarine a short distance from the first one. The fire quickly spread to other patches of oil, particularly to areas under the timber wharves, and in turn the grain vessel, the Panamanian, which was loading wheat at the grain berth on the north wharf. There was immediately a general alarm through the harbour with all non essential services being cleared from the area. Our survey team was one of them.

I believe that there was a general exodus of craft from the harbour. The fire was brought under control and all port activities returned to normal within a few days and our survey team resumed sounding along the line on which we had been working just prior to the alarm.

One of the then junior engineers, **Malcolm McCleery**, was given the unenviable task of assessing the fire damage beneath the wharf. When he completed his task and emerged from beneath the wharf he had taken on the appearance of a Black and White minstrel.

Staff at Fremantle Harbour Works

Some of the engineers I met at Fremantle Harbour Works in my first encounter with the outside world became very close associates of mine in later years. Both **Norm Henry** and **John Gillespie** occupied the position of Engineer for Harbours and Rivers, during the time that I worked under them at Bunbury, Derby and in head office. **Malcolm McCleery**, who became a very good friend of mine, was the Senior Engineer for the North West Branch when I was later based at Derby in the sixties.

At the end of this vacation, I vowed that perhaps one day, I would end up at Fremantle Harbour Works. I never did.

CHAPTER TWO

WHYALLA SHIPYARDS 1945/46

Home from Home

In the second year vacation, I, together with seven other students from Western Australia, two from Queensland and one from South Australia managed to get a job in the B.H.P. Shipyards at Whyalla in South Australia. This was my first trip out of Western Australia and also was to be the longest time I had been away from the comforts of my own home in East Fremantle. In December 1945 I caught the train out of Perth Station to Port Augusta. With me were one of my best friends from Perth Modern School, David Dunwoodie, Bob Mofflin, Dick Marmion, Alan Olden, Laurie Hayman, Brian Johnson and John Marriott. We then transferred to a coach to take us down the gulf to Whyalla, where we met up with Doug Moffat and John Bourne, who had driven all the way down to Whyalla from Brisbane and Peter McBride who had come from Adelaide.

We were accommodated in quite good singlemens' quarters in a part of Whyalla, known then as Crete Park, and which was within walking distance of the shipyards. There would have been about six or more brick accommodation blocks with each block housing about thirty workers in single rooms. There was a large mess, which would have catered for up to 200 men at one sitting and a separate amenities block.

The Shipyards

This was my first introduction to life on a construction site and I found the ramifications of management and labour of great interest, particularly as neither I nor my fellow students would have even made the bottom rung of the ladder. In order to enter and leave the shipyard enclosure one had to punch a time clock, which printed ones time of arrival and departure in 15 minute intervals on a card supplied to you. This meant that if one was going to be one minute late for work one may as well be fourteen minutes late as one would be docked a quarter of an hour irrespective of the arrival time.

In converse likewise, if one was to clock off a minute or fourteen minutes before the official finishing time one would still be docked a quarter of an hour. For a person who never had to face up to a strict time control before, I found this most fascinating. It did not seem to matter very much as to what you did, where you did it or how you did it, provided you were inside the Shipyard enclosure between the specified starting and finishing times of the shift.

At the time I was working in Whyalla BHP were building three coastal type D Class vessels in the order of 2,400 Gross Tons, the SS Delamere, Dorriga and Dulverton, which all became a part of the fleet of the Western Australian State Shipping Service, which served the North West and the Kimberley ports of Western Australia in the 1960s.

In order to give us a wide experience of shipbuilding we were allocated to various areas of the shipyard. I started my time in a large building which was known as the Loft. This was where the plywood templates were made for all parts of the ship. Large sheets of ply were laid down on the timber floor and all the details from the plans were transferred onto the sheets. One of my duties was to carry out this rather repetitive process for 8 hours a day. These templates were then handed on to the particular machine shop to cut and fabricate. Even in those days quite a large sections of the vessel were prefabricated away from the actual launching pad.

After about two weeks or so in the Loft I was allocated to a small team who were hand rivetting sections of the steel ribs. This is where my education was rapidly expanded. The men in this area seem to spend most of the time discussing their sexual prowess the night before. I still don't know to this day as to whether they were dinkum or whether they were only trying to shock a rather innocent looking 19 year old.

Checking on the Movements of Management

It was while I was in this section, that I learnt about the internal spy system formulated by the workers themselves, and which at the time was unknown to management. It was the custom that senior staff from the main site office would make daily inspections of the shipyard, to check on the general progress in the various workshops and assembly areas.

These inspections were made at random times during the day and did not necessarily follow the same route. Lookouts were posted in various parts of the yard, whose job was to send a runner ahead to alert the next section that a visit by Smithy and Company was imminent. By the time "management" turned up everybody would be flat out. The riveting machines would be glowing red and the next batch of plate would be swinging from the overhead crane. The noise would be deafening. I am sure there were also a few men behind the scenes who would be belting a 14lb hammer against the bottom of an upturned steel bucket to add to the sounds of productivity. After the inspection was completed, "management" would move onto the next shop, just a short time behind another unseen runner. The recently inspected team would then resume its activities at the union prescribed rate.

A Riveting Experience

My next job was on the slipway itself, where the Delamere was being built. I was allocated to a gang whose job was to rivet the steel plates onto the ribs of the vessel. My particular task was to bolt the steel plates to the ribs, prior to the riveters going to work. The plates were positioned by an overhead crane and rivet holes located by a hand reamer prior to inserting the bolt and tightening the nut. It required two labourers to carry this out, one working from staging outside the vessel and the other from the deck inside. Once the plates were fitted and checked, the riveters took over, once again with the riveting machine operator working from the inside deck and the operator's assistant working from outside staging. Another one of my jobs was to remove the bolts just prior to the rivets being inserted. The rivets were heated to an almost white hot heat in a firebox on the apron of the slipway below the staging. An assistant would remove the white hot rivet from the fire using steel tongs. The rivet would then be thrown up to a second assistant who would catch the red hot rivet in a bucket, from which it would be removed by another set of tongs and quickly inserted into the hole from which the bolt had previously been removed. The riveter's assistant, working from outside the vessel would place a dolly on the head of the rivet to hold it in place and tightly against the outside of the steel plate.

At the same time the machine operator, working from inside the vessel would proceed to hammer and flatten the end of the rivet projecting beyond the inside face of the rib. The noise inside the vessel was deafening.

Fun in the Bilges

During a smoke break David Dunwoodie and I decided to have a look around the vessel which we so proudly felt we were helping to build. After climbing down a few ladders inside the ship we came to what was to be the engine room and the propeller shaft tunnel astern of the engine room. We then decided to investigate a bilge adjacent to the engine room, which was accessible through a manhole near the propeller shaft tunnel. We climbed through the manhole into the faintly lit bilge, when suddenly we became aware of a movement overhead which sounded like a steel plate being dragged along the deck. The next moment there was a loud clang and total darkness as the bilge manhole cover was lowered over the opening. We were now scared. We visualized that one day when the vessel was scrapped, they would find two skeletons in the bilges, not knowing how they got there. We called out but we were sure that no one would hear us. We could not understand why they would be closing up the bilges at this stage of the work. Was it likely that they were only testing the bilges - and how did they test them? - they filled them up with water. If they could keep water in they could keep water out. We were getting quite concerned and on looking back I don't think we fully appreciated the seriousness of the position. Then after what seemed a long period of darkness, there was a glimmer of light and the sound of a steel cover being dragged aside. The next moment, two workers were peering down at us, laughing their heads off. They had seen us climb down into the bilge and had decided to have a bit of fun at our expense.

Students versus Management

One of the strange things about working at Whyalla was the relationship between the men and us and management and us. We did not seem to belong in either area. The workers looked on us as intruding on their work style and definitely not one of them. The management seemed to put up with us but were not that concerned about our welfare.

After a very short time some of the antagonism between the workers and management seemed to rub off on us. There was one occasion when all eleven of us downed our tools and sought an audience with the top staff man in the shipyards. I think our main gripe was that we seemed to do as much work as the other labourers but were only getting a fraction of their pay. We didn't do any good of course, but at least a few of us left some dirty handprints on the white walls of "management's domain."

The Escape Route

In some areas in which we were placed we found the work most boring, in that our supervisors were not particularly interested in whether we worked or not. This reached the stage when we felt we would be better off back in our quarters resting or reading a book rather than be confined to the shipyards. However there was a small problem in that the only way out of the yards was through the main entrance and through the time check. Then one of our team found another way out. During the later stages of the War, BHP had built a foundry just outside the shipyard enclosure which had never been commissioned. The foundry was fenced independently to the shipyards and the only entrance to the foundry enclosure was through locked gates. However there were several underground ducts connecting the steel foundry to the shipyards, possibly for the running of future services between the shipyard and the foundry. The first duct we discovered allowed us to gain entry to the foundry from the shipyards. We were then able to sneak away to the foundry and spend a few hours playing cards. The next step was a duct that took us out of the foundry enclosure and into an open unfenced area, not that far from our quarters at Crete Park. Several times some of us would escape via this route and end up back in the singlemen's quarters. With this manoeuvre it was most essential that you returned to that shipyard by the same route, before knock off time in order to clock off through the main entrance to the shipyard.

In retrospect, what we did seems quite wrong. I guess that the only consolation was that we were not missed, productivity was not effected, we showed some initiative and we didn't do it often.

In Conversation with Flo

With respect to our social life, we all seemed to pair up and go our separate ways. Dave Dunwoodie and I became involved with the Baptist church and attended church services and youth functions. We also would get into deep conversations with some of the domestic staff who looked after the single mens' quarters at Crete Park. I remember one particular lady, Flo, who was several years older than us and used to carry out extra curricular duties at Crete Park in not only looking after the single mens quarters but also the single men themselves. We were quite intrigued by her open conversations and how she saw her work as a service. We thought she was very considerate, as she had carefully bound every cross wire on the steel mattress of her bed with twine so that it wouldn't squeak and disturb the sleep of other people in adjoining rooms. To her, I am sure we were only kids and like some of the men in the shipyards she also possibly enjoyed shocking us with her exploits.

Looking back on this, I can only conclude that sexually we were of no interest to her and if we had been, I guess she wouldn't have cared anyway.

Iron Knob

As a change to the shipyard environment, we all spent a few weeks at the iron ore open cut mine at Iron Knob. The ore was being mined at Iron Knob, railed to the port of Whyalla and then shipped to Port Kembla for processing. Eventually it was shipped back to Whyalla in the form of steel plate. At Iron Knob we stayed in staff houses in the town itself, which was only a short distance from the mine. My main recollection of Iron Knob was that it was hot, it was dry, it was dirty and it wasn't very interesting. We all welcomed the return to Whyalla.



Whyalla Shipyards 1945/46 - The eleven engineering students who spent the 1945/46 university vacation at Whyalla in South Australia.

From left to right - Back row - Laurie Rayman (WA), Peter McBride (SA), Brian Johnson (WA), Doug Moffat (Qu), John Marriott (WA) - Front row - Bob Mofflin (WA), John Bourne (Qu), David Dunwoodie (WA), Max Anderson (WA), Dick Marmion (WA), Alan Oiden (WA).



Whyalla Shipyards 1945/46 - The singlemen's quarters at Crete Park, Whyalla.



Whyalla Shipyards 1945/46 - Taken in March 1946 at Kalgoorlie railway station on our return trip from Whyalla. From left to right - John Lawson, who was in our year, and was returning from a vacation job he had in Melbourne, Laurie Rayman, Max Anderson, David Dunwoodie, Bob Mofflin and John Marriott.

X



Whyalla Shipyards 1945/46 - Doug Moffat and John Bourne drove down to Whyalla from Brisbane in this fully air conditioned vehicle.



Whyalla Shipyards 1945/46 - The eleven engineering students who spent the 1945/46 university vacation at Whyalla in South Australia.

From left to right - Back row - Laurie Hayman (WA), Peter McBride (SA), Brian Johnson (WA), Doug Moffat (Qu), John Marriott (WA) - Front row - Bob Mofflin (WA), John Bourne (Qu), David Dunwoodie (WA), Max Anderson (WA), Dick Marmion (WA), Alan Oiden (WA).



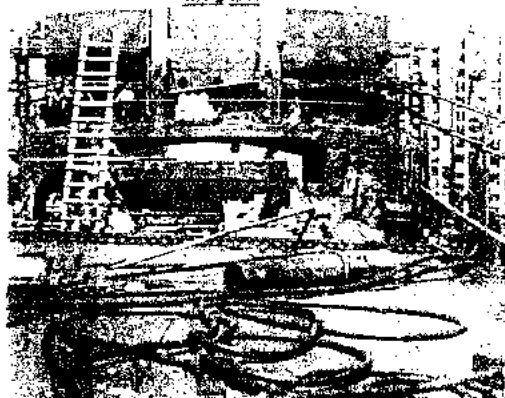
Whyalla Shipyards 1945/46 - The singlemen's quarters at Crate Park, Whyalla.



Whyalla Shipyards 1945/46 - Dosed in March 1946 at Whyalla railway station on the return trip from Whyalla. From left to right - John Lawson, who was in our year, and was returning from a vacation to the north Melbourne, Laurie Hayman, Max Anderson, David Dunwoodie, Bob Mofflin and John Marriott.



Whyalla Shipyards 1945/46 - Doug Moffat and John Bourne drove down to Whyalla from Brisbane in this fully air conditioned vehicle.



Whyalla Shipyards 1945/46 - The SS Delamere, under construction on No 2 slip. In 1945/46 three vessels of this class were being built at Whyalla. They were the SS Dulverton of 2,411 gross tons, the SS Corrigo of 3,32 gross tons and the SS Delamere of 2,354 tons. These ships which were cargo vessels and eventually served the North West and Kimberley ports of Western Australia in the 1960s.



Whyalla Shipyards 1945/46 - Taken in January 1946 prior to our departure by taxi from Whyalla to Iron Knob. Left to right - Alan Oiden, John Marriott, David Dunwoodie, Max Anderson and Bob Koffin.



Whyalla Shipyards 1945/46 - The staff quarters at Iron Knob. Taken in February 1946. From left to right - Alan Oiden, Brian Johnson, Laurie Rayman and Dick Marmion.

CHAPTER THREE

STIRLING DAM 1946/47

The Job

During the 1946/47 University vacation I worked as a student engineer on the construction of Stirling Dam 12 miles or so east of the southwest township of Harvey. The purpose of the dam was to impound the waters in the upper reaches of the Harvey River for the irrigation of farmlands on the plains west of the Darling Ranges.

The dam comprised an earth fill of some 405,000 cubic yards with 33,000 cubic yards of rock fill and stone pitching and 23,000 cubic yards of clay pug for the core and cut off walls. A spillway was blasted through a saddle on the right upstream side of the dam to take overflow from the dam. There was also a 1200 feet length of 14 feet diameter tunnel blasted through the righthand side abutment to allow water to be released downstream as and when required.

Earth fill material was excavated from borrow pits upstream of the dam and transported to the site and dumped and spread using tractor drawn scrapers. The rock which had been blasted from the spillway area was loaded onto trucks and transported to the site. There was a mix of day labour and contract work, with the earth moving being carried out by the day labour organization and the carting and dumping of the rock being carried out under contract.

Payment for contract cartage was calculated on the number of measured and/or weighed loads carted. A tally man employed by the Department was required to check on each load and issue a docket to the particular driver, who in most cases was an owner driver.

It Didn't Tally

At some stage during the delivery of rock it became evident that the amount of rock being booked out from the spillway site was not tallying with the amount being received at the dam face. It was also evident that as there was only one road between the spillway site and the dam, it would not have been possible for the loads to be diverted elsewhere.

This is where I joined ASIO for a short time. I was asked to set up a theodolite amongst the trees on the left hand abutment of the dam so that I had an unobstructed view across the dam to the access road from the spillway to the dam itself. Every vehicle had to negotiate this section of the road before delivering its load onto the dam. The theodolite was so placed that the registration number of every vehicle entering could be clearly seen through the telescopic lens of the theodolite. Then began the long tedious day from early morning until early dusk of recording the number of times every vehicle entered the work area. As a result of this surveillance it was found that the tallyman and some of the owner truck drivers were working a rort, by recording a number of fictitious loads and duly claiming payment for their delivery.

I might add that whilst I was set up in the bush, no one suspected what was going on - the other workers etc. just thought that the young fellow behind the theodolite was having trouble levelling and adjusting his theodolite - took him all day and he still didn't get it right!

I did not find out the end result of my espionage, although no doubt there was one less tallyman on the payroll and a few less trucks carting rock in the subsequent week.

The Camp

The construction workers and staff working on the dam were housed in tents with some basic housing of varying degree being provided for married people. The basic single construction worker's accommodation consisted of a 10 feet long by 8 feet wide canvas tent pitched over a rough timber frame and a dirt, timber or concrete floor depending on the permanency of the "structure". The accommodation for a single staff member was similar except that the tent size was increased from 10 feet by 8 feet to 12 feet by 10 feet. The other refinements were a timber floor supported on stumps, a weatherboard dado around the tent, steps, a timber door defining the entrance to the tent and a substantial tent fly stretched over the whole "structure".

The type of housing for married accommodation depended on the status of the employee in the hierarchy. The basic accommodation consisted of two 10 feet by 8 feet tents pitched about 10 feet apart with their opening facing each other.

The area between the two tents was converted into a kitchen by building in a rough open fire place with hobs, located on one side of the gap and providing an entrance of sorts on the other side. The kitchen area was then completed by stretching a tent fly to span between the two tents. Once again flooring was subject to the predicted permanency of the structure. The next rung up the ladder was an increase in tent size, a stove, a weatherboard dado, a timber or concrete floor and a substantial timber door. The final rung was the provision of a timber framed weatherboard corrugated galvanized iron roof clad house, complete with all the modern conveniences of that time.

As the standard of housing varied so did the furnishings. Basic furniture comprised a wire stretcher, a mattress, (a hessian palliassa filled with clean straw), and a hurricane kerosene lamp. Furnishings for single staff comprised a camp stretcher and horsehair filled solid mattress plus a pressurized kerosene lamp, which apart from providing light acted as a radiator in the colder weather. It could also be used as an unofficial hot plate for cooking "light" snacks. Furnishings for married staff varied as to where the employee fitted into the organization. However, much of the furnishings were provided by the employee himself.

Eating and Drinking

Eating arrangements were also related to the pecking order. The single construction workers either cooked for themselves or ate in a communal mess, which was very basic. Single staff, on the otherhand had the luxury of eating off starched linen table cloths, complete with linen serviettes, with the meal being served in what was possibly the best building on the construction site. The staff area was located amongst trees up the left abutment of the dam and comprised the main site office, field stores, the staff mess and the staff single men quarters. The staff mess was situated half way up the slope between the office and the quarters and at the morning and afternoon tea break the staff would make the short climb up to the mess building for tea and scones. I could never understand why some of the more senior clerical staff always use to proceed on further up the hill to take nourishment in their own quarters, rather than joining the rest of us in the staff mess.

It did not take me long to realize that the main attraction further up the hill came out of a bottle. It also provided for some rather good entertainment by these particular gentlemen, who always kept their pressure lamp going well into the night to ensure that none of the creatures they had dreamt up in their DTs would get them. Often the silence of the night would be broken by screams, moans and gurgles coming from the confines of these lighted tents.

A Fatality

On a more sobering note, I remember the day well that I was witness to my first fatality on a construction site. One of my duties was the regular measure up of the quantities of fill in the dam wall. This involved the levelling of the earth bank using a dumpy level and staff. The survey was usually carried out during the time when there was the least amount of earth moving equipment onto the dam site. It was also the period during which sand blasting was carried out at the spillway site on the saddle beyond the right abutment of the dam.

Sand blasting was the term used for bulling out a drill hole to provide a greater volume for loading explosives prior to setting off the main charge. Prior to the setting off of the main charges a warning siren was blown to ensure that all workers were off the dam wall and or under cover. Generally the siren was not blown for the sandblasting of a hole as it was considered that there was little likelihood of any rock flying far from the source of the detonation.

On this particular day there would have only been half a dozen people on the bank, including my staffman and myself. While I was peering through the telescopic lens of the dumpy level I was aware of several small bangs and then suddenly through the lens I saw another worker just to the right of my staffman throw up his arms and keel over. He had been hit by a very small chip of granite which had come from the direction of the spillway. It was perhaps the one chance in a million that this lone fragment of rock had hit him like a bullet. He died instantly.



Stirling Dam 1946/47 - The earth bank of the dam. The store buildings, site office, mess and staff quarters are in the background.



Stirling Dam 1946/47 - Earth moving plant working on the earth bank. There are two sets of tractor and scrapers (carryall scoops) distributing their load along the bank. At each end of the wall the fill is being consolidated by banks of "sheep foot" rollers being drawn by two D6 Caterpillar tractors.



Stirling Dam 1946/47 - A part of the staff camp showing the type of sleeping accommodation which was provided for single staff.



Stirling Dam 1946/47 - The staff mess complete with starched linen table cloths, hotel type table appointments and floral decorations on each table



Stirling Dam 1946/47 - The survey team at the dam with the surveyor in charge, Paul Paget, in the centre of the front row. I am standing on his left.



Stirling Dam 1946/47 - Blasted rock being removed from the gullet to take the overflow from the dam.

CHAPTER FOUR

ALBANY AND OTHER AREAS 1948

Public Works Department

On the 5th January 1948 I joined the Public Works Department as a graduate engineer on one years probation with an annual salary of 364 pounds. The head office, which was then located in the old barracks at the top end of St. George's Terrace housed the six main engineering branches of the department. The largest branch was the Hydraulic Engineers branch, headed by Mr Crimp. This branch carried out major water supply construction work and was responsible for country water supplies, except those in the north of the State and those fed from the Goldfields Water Supply Scheme. It also looked after all irrigation works and drainage requirements outside of the metropolitan area. There was a separate branch which operated and maintained the Goldfields Water Supply. The north of the State came under the umbrella of Mr Drake Brockman, who was also the Deputy Director of Works and who was responsible for the construction, operation and maintenance of all water supplies, stock routes, ports, and government buildings from Carnarvon to Wyndham. All government plant which, if I remember correctly, included that used by the Main Roads Department came under the control of the Plant Engineer, Mr Henderson. Mr Stevenson Young was the Engineer for Harbours and Rivers. Mr Dent was in charge of the Drawing office.

The First Year

On joining the department, I was allocated to the Hydraulic Engineer's branch and spent a lot of my first year travelling over most of the southern part of the State. My first job was assisting Mr Crimp in the analyzing of drainage appeals, submitted by various dairy farmers in the Harvey area. From what I can recall, the work was most uninteresting. At the time I thought it was a strange task for the head of a branch to be doing. I was to learn in later years that this was quite normal. The more engineers you had under you the less engineering you did. However, Mr Crimp a most delightful Englishman, interspersed the boring parts of the work with personal anecdotes about some of the appellants.



Stirling Dam 1946/47 - The survey team at the dam with the surveyor in charge, Paul Paget, in the centre of the front row. I am standing on his left.



Stirling Dam 1946/47 - Blasted rock being removed from the gullet to take the overflow from the dam.

1946/47

1946/47

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In the 8th January 1946 I joined the Public Works Department as a graduate engineer in the years probation with an annual salary of 164 pounds. The head office, which was then located in the old barracks at the top end of St. George's Terrace housed the six main engineering branches of the department. The largest branch was the Hydraulic Engineers branch, headed by Mr Crimp. This branch carried out water supply construction work and was responsible for country water supplies, except those in the north of the State and those fed from the Goldfields Water Supply Scheme. It also looked after all irrigation works and drainage requirements outside of the metropolitan area. There was a separate branch which operated and maintained the Goldfields Water Supply. The north of the State came under the umbrella of Mr Drake Brookman, who was also the Deputy Director of Works and who was responsible for the construction, operation and maintenance of all water supplies, stock routes, ports, and government buildings from Carnarvon to Wyndham. All government plant which, if I remember correctly, included that used by the Main Roads Department came under the control of the Plant Engineer, Mr Henderson. Mr Stevenson Young was the Engineer for Harbours and Rivers. Mr Dent was in charge of the Drawing office.

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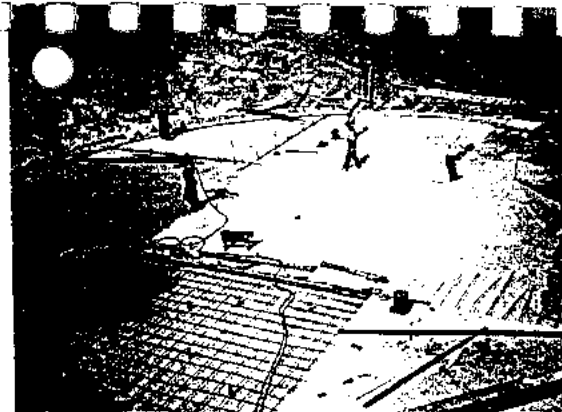
As it was intended that I would eventually be appointed to a field position in the country water supply section of the branch it was considered that I should gain some experience in that area by having three weeks with the Metropolitan Water Supply Department and then following this up with a month at Kalgoorlie. Later I spent some time with surveyor, Frank Butson, inspecting and reporting on dams and water supply catchments in the north eastern and great southern areas of the State. At some stage in the year I was sent to Bolgart to test the flow of water on a bore for the Bolgart water supply. I also had a short stint at Bridgetown, surveying the high water level contour for a proposed dam on a tributary of the Blackwood River.

Another job I had was to draw up "as constructed" plans of the recently completed Waroona town water supply. This job involved walking around the town with a note book and a tape measure and recording the position of all the mains, stop valves, hydrants and services.

Albany

I was eventually transferred to Albany on the construction of a half a million capacity circular reinforced concrete tank on Mount Clarence. My immediate superior was Ken Kelsall, who was based at Katanning. The Albany construction camp was based a little downhill from the tank site, near Watkins Road. The camp did not have staff quarters and I occupied one of the 10 feet by 8 feet tents in the main part of the camp. For this privilege I received, what was then known as a camp allowance, an amount of 14 shillings a week. The men, on the otherhand, who were under an award received an allowance of one pound a week. There was no mess and I arranged with two other chaps off the job for us to have our meals at a private house in Watkins Road. I might add that my camp allowance of 2 shillings a day went no where in covering the cost of those meals.

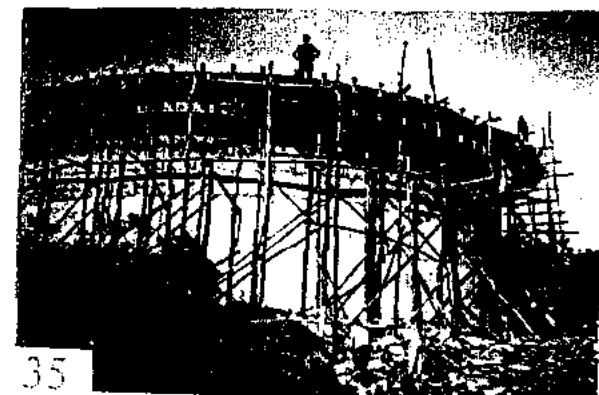
This was the first construction job in which I was personally involved, and although I would have liked to have thought that I was in charge, I was probably in charge in name only. The foreman in charge of the work was Bert Bridsen, who had trained as a carpenter and who was a most knowledgeable, practical and efficient foreman. He was well respected by all the engineers in the branch and would have trained many a young engineer without the engineer realizing it.



Albany 1948 - Above - The reinforced concrete floor of the half million gallons capacity circular tank on Mount Clarence, Albany, being prepared for a pour.

Below left - The commencement of the walls showing the setting up of the reinforcement and formwork for the third lift.

Below right - The inside of the tank near completion, taken on 11th June 1948. Over forty years later, the tank was still holding water.



CHAPTER FIVE

COLLIE 1948

Wood Stave Pipeline

In 1948 I spent several months at Collie, relaying a wood stave pipe line between Mungilup Dam and the town of Collie. The purpose of the original line was to carry effluent away from the recently completed grain alcohol plant, located on the outskirts of the town. The distillery, which was to provide an alternate fuel to petrol never operated as such and much of the equipment was sold off. The wood stave pipe line had completely dried out and required very careful handling during the dismantling and relaying stages.

Wood stave pipe comprises short lengths of staves which are held together by a continuous length of steel wire wound around the staves and held in position with wire staples. The lengths of pipe are in turn wedged into cast iron sleeves. In theory, the water in the pipe tends to swell the wood and make for a water tight joint and the water pressure holds the staves tightly against the steel wire. In practice what happens is that if too much water escapes, the staves start to dry out, the water pressure in the pipe is not sufficient to force the staves against the outside coil of wire and the staves start to collapse inwards pulling the staples out of the staves and releasing the wire coiled around the pipe. This results in ending up with a dozen or more lengths of wooden staves resting on the ground and a large diameter coil of wire at one end of where the pipe was originally. By this stage all the water has drained out of the pipe or where the pipe was. It was essential that the flow of water from between the staves was blocked off by any means by driving in small wooden wedges, wherever there appeared to be the slightest leak. At the same time one had to be very careful that the hammering in of the wedge was not overdone or else a length of stave might disappear into the pipe, resulting in the collapse of the whole length of pipe. I did not like working with wood staves.

The wood stave line at Collie was only 8 inches in diameter whereas later in my career I had to contend with the same problem in 24 inch diameter wood stave pipe line on the Goldfields pipeline at Merredin.

Accommodation and Transport

For the short time I was in Collie I lived in dormitory type accommodation in quarters at the grain distillery. What had been built as the store for the distillery had been partitioned off with low walls into about twenty bedrooms.

The industrial type building had a very high galvanized iron roof. It was unlined and the slightest sound was magnified many times. Most of the occupants were miners employed on the adjacent Griffin Coal Mine.

In those days young engineers could not always depend on being supplied with a departmental vehicle. This meant that quite a large amount of walking was required to and on the job. In the case of the wood stave pipe line job at Collie it was necessary for my survey hand and myself to walk each day from the grain distillery to the site lugging two survey instruments, their legs, a survey staff, a steel measuring chain, an axe and an assortment of survey pegs. I remember I put up a request to my chief in head office for a vehicle for the transport of survey gear and personnel, drawing attention to the fact that I was spending four hours a day walking to and from the job. All I got was a curt note saying that if I had time to write such rubbish I had time to walk to and from the job and still do a fair days work.

Gunpowder and Tomato Sauce

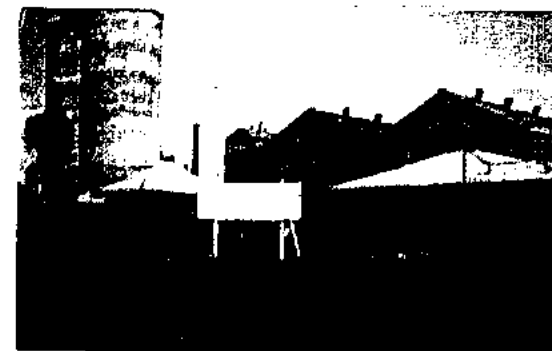
There was one particular miner who nobody could stand. When he got drunk he would abuse everybody and try and pick a fight. One night he came home well and truly plastered, collapsed on his bunk in the dormitory and passed out. A couple of other miners filled a matchbox with sand and put a detonator with a short fuse in the matchbox and placed it under his bed. They then emptied about half a bottle of tomato sauce over his head and chest, lit the blue sump fuse, vacated the room and waited. In a short time there was a very loud explosion which reverberated throughout the building followed by an even louder scream from the occupant of that particular room who was convinced that he had just been shot.

The Coal Miner's Night Out

The showers, toilets and washbasins were in a communal block which was the original ablution building constructed for the grain distillery. There was a bank of wash basins along one wall. Late one afternoon, while I was having a shave at one of the basins, I was joined by Horace, a young miner from the Griffin mine.

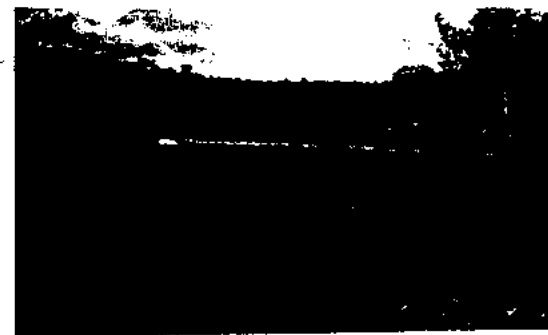
Horace had just come off shift and his appearance was not unlike any other miners who had just come off shift, in that the only white on their person was the white of their eyes. Any one of them could have impersonated Al Jolson. Horace was no exception except that he was wearing a new fawn suit, shiny brown shoes with yellow socks and a white shirt with a stiff collar complete with a bright red tie. He explained to me that he had been invited out to tea by a young lady whom he had met at a dance the previous week and that he was running late and did not have time for a shower.

He said that he decided to quickly get out of his work gear and get straight into his night clobber and snatch a quick wash on his way out. His wash consisted of removing the coal dust from all visible parts of his body, making some allowance for any ride up of his sleeves over his wrists or ride down of his collar on his neck. I must confess that by the time he had completed his ablutions he looked quite immaculate. I only hoped that at no stage during the night he would have been required to remove any of his clothing.



Collie 1948 - Above - The disused alcohol grain distillery a few miles out of Collie on the Dardanup road. Some of the buildings had been converted to a kitchen, mess and sleeping quarters to accommodate miners employed at the nearby Griffin Mine.

Below - The Mungilup Dam, which was the main water supply for Collie in 1948 (left) and a section of the eight inch diameter wood stave pipe during construction, showing the problem we had in retaining water in the pipeline during laying (right).



CHAPTER SIX

KATANNING 1948

Pinwernying Dam

For a part of 1948 I was based at Katanning as an assistant engineer to Ken Kelsall on the upgrading of Pinwernying Dam, which supplied the town of Katanning with water prior to it being connected into the State Comprehensive Water Supply Scheme.

The job involved the raising of the earth wall of an existing dam using tractor drawn scrapers. The material was taken from a borrow pit upstream of the dam wall, transported to the site and dumped in evenly spread layers along the earth embankment. In order to provide good compaction, heavy steel rollers which were fitted with several short steel L-shape lugs projecting beyond the face of rollers and which were known as sheep foot rollers were drawn continuously over the dumped material. My job mainly involved the measuring up of the material removed from the borrow pits and the the material placed in the earth embankment and carrying out simple compaction tests on the compacted material.

Just Dozing

The general feeling at that time amongst many of our senior staff was that many of the engineers coming out of the University had not had sufficient practical experience to competently relay instructions onto many of the tradesmen and plant operators working on the job. Although it was suggested that it may not be necessary for young engineers to acquire the same skills as a tradesman or a machine operator they should at least know what is involved in a particular trade or operation. One of the areas in which we were encouraged to participate in was the operation of earth moving plant.

After a few short lessons from one of the dozer drivers, I was able to take over a tractor drawn scoop and pick up a reasonable pay load of dirt. The prime mover was a D6 Caterpillar dozer with the usual controls - a hand throttle, two foot brakes which locked the caterpillar tracks.

There were also two hand control clutches, one for each track. Steering was accomplished by simply disengaging the power from one track by pulling on the lever on the side on which you wished to turn. The same action could also be achieved by using the floor pedals which could be used for locking both tracks or else locking one track and allowing the other track to travel faster and turn. The scraper was controlled by wires operated from winches mounted directly behind the driver's seat. These winches controlled the depth of the cut when the bowl of the scraper was being loaded, the underside clearance of the scraper during the transport of the load and the thickness of the fill when the load was being spread.

The load was picked up on a level run over the borrow pit with the depth of cut and the speed of the tractor being controlled by the operator. Once the scraper was fully loaded the bowl was raised, the load transported to the dam site and spread over the fill area. Generally during the early stages of construction all loading, travelling and spreading was carried out on a fairly level terrain. However in the later stages of construction it was often necessary to bring the load onto the earth bank from the right or left abutment of the dam requiring the tractor to climb up a slight slope from the borrow pit to the dam abutment and then descend onto the earth bank to spread its load.

When travelling on level ground or when going up a rise, steering of the tractor could be achieved by either using the brake pedals or the clutch levers. Providing the engine speed was greater than the free wheeling speed the tractor and scraper would turn in the direction indicated. However if the tractor was travelling down a slight slope, where the engine speed was less than the free wheeling speed, disengaging of the clutch on one track could turn the tractor in the opposite direction.

During one of my last load deliveries, I had picked up a load from the borrow pit and was transporting it via one of the site roads up and over the left hand abutment and onto the earth bank of the dam. At the bottom of the abutment and on the edge of the earth fill a concrete batching plant had been set up where several men were fully engrossed in turning out a batch of concrete. The track onto the dam passed quite close to the concrete mixer. However I knew that an experienced operator like myself would have no trouble in inching the tractor and scoop pass the concrete mixer, which was on my left.

I was only about ten yards from the concrete batching plant when I suddenly realized that the scraper I was pulling behind me was wider than the dozer and that I must take quick evasive action if I was to avoid wiping off an almost brand new concrete mixer, not to mention the men working around it. Up to this stage I had been steering the dozer using the clutch levers, that is by disengaging the drive to the track on the side I wished to turn.

Not realizing that I was now going down an incline I pulled back hard on the right hand lever to turn the machine away from the batching plant. Instead of turning to the right the tractor took a hard swing to the left and was now heading full on to the concrete mixer. In the short interval between making this move and ramming both feet hard on the brake pedals I was aware of people running everywhere from this mad juggernaut. I pulled up just in time. I am sure that that particular batch of concrete might have had a few other unspecified additives in the mix.

The reason why the dozer turned to the left was that when I disengaged the right hand track, the right hand track which was then free wheeling ran faster than the left hand track which was still under power.

With a little maneuvering I was able to direct the machine around the scene of activity and spread what was my last load on the Katanning Pinvernnying Dam.

Visitors

Accommodation at the construction site was similar to that which I had when I was working at Stirling Dam in 1947, consisting of a 12 feet by 10 feet canvas tent and fly stretched over a timber frame and mounted on a raised timber floor. The other refinements were a low weatherboard dado and a timber ledge and brace door. Furnishings comprised a cyclone stretcher with a solid unforgiving mattress and the standard kerosene pressure lamp. At one end of the tent and next to the bed, which also served as a seat, was a small timber table, at which I would periodically sit and carry out any paper work resulting from the day's activities. On one particular afternoon I entered my tent, sat down on the bed and proceeded to reduce some levels from my field book, when suddenly something from under the bed grabbed my ankle.

This was followed by the sound of some maniacal laughter coming from the same source which made me think that perhaps the dozer driver who had been trying to teach me the basic rudiments of bulldozer had suddenly gone berserk. Then three bodies came out from under the bed. They were three of my friends from Perth, who had decided to pay me a surprise visit during their holidays. They had arrived at the camp early in the afternoon and had found out from the camp orderly which was my tent and then hid there until I knocked off. My three visitors were David Koch who ended up as a divisional head of CSIRO and ultimately as a Professor of Chemistry in the Engineering School at Monash University in Melbourne, Jim Cundill who spent many years as a geologist involved in oil exploration in Canada and established the firm of Cundill and Meyers in Canada and Australia and who devoted his retirement years to writing novels and Bob Southern who became the State Director of the Meteorological Bureau and later distinguished himself in the developing of early warning systems for cyclones in Bangladesh.

I remember how pleased I was to see my three friends who suggested that we should all retire to one of the drinking places in Katanning to celebrate the occasion. It was a fairly hot day and we lost no time in going into Katanning and downing a few jugs. As a matter of fact ever since that day, the expression "Katanning" was often used as a substitute for the salutation "down the hatch".



Katanning 1948 - Above left - My tent at the Katanning water supply camp at Pinwernying Reservoir.

Above right - A D6 Caterpillar tractor pulling a 6/8 cubic yard Carryall Scraper. Although this photograph was taken at Stirling Dam the previous year, it was the same type of unit I attempted to master at Katanning.

Dalwallinu 1951 - Below - Foreman David Crombie and myself standing outside my quarters in the Dalwallinu water supply camp. On the left partly hidden by the tent is our makeshift mess hut.



CHAPTER SEVEN HARVEY 1949

Harvey Camp

In 1949 I was transferred to the Irrigation and Drainage section of the Hydraulic Engineer's Branch of the Public Works Department, and was based at the Harvey construction office, which was located on the eastern side of the South West Highway about one mile north of Harvey. The staff comprised mainly married men who either had their own homes in the Harvey township or were supplied with married quarters near the construction office. The main camp was located at Cookernup, about nine miles north of Harvey adjacent to the South West Highway. My accommodation was a great improvement to that which had been supplied the previous year at Katanning. This time I had a lined room with an elevated timber floor and even a window with glass panes. The room was one of a number which made up the construction office, which housed my immediate superior, the District Engineer George Nelson, the Works Clerk Trix Daly, the surveyor Verne Gibson, the draftsman Mick Kustick and myself.

Polished Floors

The District Engineer, George Nelson and his family lived in one end of a Nissen hut, which was nothing more than just a large corrugated iron shed with a semi circular roof. The Works Clerk Trix Daly and his wife Phyl had more conventional accommodation, being a small four roomed timber framed, weatherboard clad wall, corrugated iron roof cottage. Trix was partly an invalid and was confined to a wheel chair. He would travel each day from his home, which was only a few chains from the office, in his wheel chair and enter the office up a specially made ramp and through a widened doorway to his desk. His wife Phyl was a perfectionist in every way. I had never seen then and have never seen since one who was so house proud. The place was spotless and the saying, that you could eat off the floor was never so true as in the house of Daly. Phyl had the jarrah floors so highly polished that you could see the reflections of the pressed iron ceilings above in them.

Often, Pat Pilkington, one of the construction foreman, and myself would pay a visit to Trix and Phyl at the end of the day. We never feared slipping on the highly glistening floors, because as soon as she heard the latch go on the gate outside she would rush out with piles of newspapers and place them strategically between the back door and the kitchen table, thus defining the areas where our feet were to tread. At that time there was nothing so elaborate as a septic system so the normal household toilet consisted of a small closet, located as far away as possible from the house. In the closet there was a boxed in timber seat, generally referred to as a thunderbox with two openings. One was at the rear of the building, through which the full sanitary pan would be removed and replaced by a new freshly tarred empty one, while the other one was the opening in the seat itself, which was normally fitted with a good solid hinged timber lid. Most closets were equipped with a number of accessories, which ranged from the essential square sheets of newspaper, usually tied together at the top left hand corner and hung from a three inch nail driven into the back of the door down to the standard bottle of phenyle.

The toilet at the house of Daly had everything. Firstly it had a highly polished timber floor and an even more highly polished seat and lid. Then it had a little box of sawdust complete with a small trowel, adjacent to the seat, from which you were required to cover up any recent deposits. There was also a supply of new magazines for reading purposes only and a bottle of phenyle housed in a pretty calico wrapping to disguise the contents. The nail at the back of the door had been replaced with an embroidered Hessian bag in which 8 inch by 8 inch squares of newspaper sat comfortably, quite unaware of their future fate.

The Camp Uprising

The construction workers at Cookernup comprised a mix of both single and married men who were housed in 10 feet by 8 feet tents similar to the set up at Stirling Dam. At that time there was quite a large number of displaced persons from Europe, employed on the irrigation and drainage projects in the Harvey/ Varoona area and who were housed at the Cookernup camp. They were often referred to as "New Australians", in order to bring the various nationalities together.

It was a title which seemed to stick for many years. They were mainly from the Baltic countries and Poland and a lot of their grievances were brought out to Australia. There was often a great amount of friction in the camp due to clashes between the various ethnic groups.

My chief, George Nelson had given me the construction camp to look after and it was my duty as a rather young 23 year old to sort out any of the problems which were continually cropping up in the camp. I remember one incident very well. There had been a fight in the camp involving two Poles and a Lithuanian and a message had been relayed to me at the Harvey office. I immediately drove the few miles down the main road to the camp, where I met a very hostile reception committee. It appeared that the fight had erupted into a near riot and I could plainly see that this was a job for the police. I hurriedly backed out of the camp entrance and drove to the Police Station at Yarloop, where I contacted the lone officer in charge Constable Pollack. I then drove the constable back to the Cookernup camp, which at this stage had taken on the appearance of a disturbed ants nest. The constable who was sitting next to me leaned out of the window and asked the crowd to return to their tents.

At first they took no notice and I had no option but to stop the vehicle as they continued to engulf it from all four sides. It was then that Constable Pollack decided on a different tactic. The vehicle, which I was driving was a Ford utility with running boards. The constable got out, stood on the running board and directed me to slowly inch the ute through the now rather large crowd. At the same time he had drawn himself up to his full height, an imposing uniformed upholder of the law, standing well above any of the crowd below and giving directions in a strong clear authoritative voice for the crowd to disperse and return to their tents. I remember his commands quite well. He said "You will now return to your tents and you will stay there until I say you can leave - go immediately"

And they did. The crowd broke up as quickly as it had formed. Constable Pollack confided in me later that he was well and truly scared at the time, when he suddenly remembered seeing a newsreel, showing Herr Himler, who was in charge of the German secret police addressing an unruly gathering. He said he decided to try the same principles and it worked. Following the dispersal of the crowd the constable was then able to go from tent to tent cross examining the various occupants, in order to get to the root of the camp flare up.

Eventually three people were arrested and taken back to the Yarloop Police Station and charged with inflicting malicious bodily harm. There was one particularly nasty Pole, who for some reason or other had taken an instant dislike to me and had threatened me at the Police Station in front of Constable Pollack. I might add that this particular gentleman was eventually deported.

Terms of Endearment

Our draftsman Mick, who was one of our "New Australians" had difficulty understanding some of our idioms. Vern Gibson, who was the surveyor on the job, often used to drop in the office to see how Mick was going on some of the channel plotting. Vern was a very friendly type of person, greeting Mick by the expression, "How are you going, you old bastard?", which was more an enquiry as to his health rather than an enquiry as to his progress on the plotting. This would annoy Mick immensely and he would ask me to speak to Vern about it. I used to try and explain to Mick that it was a term of endearment in the Australian tradition and not an insult which he felt it was. In the end I thought I had at last convinced Mick that the expression was quite OK to use. But I was wrong. The next day, when the District Engineer dropped into the drafting office Mick proudly beamed the greeting to Mr Nelson - "How you be, Mr Nelson, you are an old bastard."

Piece Work

The excavation of drainage channels at the back of Cockernup was carried out by both day labour and by piece work. Men on piece work were paid so much a cubic yard for hand excavation. The drains were constructed through low lying land often still covered in water during the survey and during the excavation. The line and depth of the drain was defined by pegs, driven at ground level alongside both sides of the drain and one chain apart. The chainage along the line of the drain and the depth that the channel was to be dug below a line stretched across the pegs, was shown on the pegs.

Once the survey had been completed, the pieceworkers would be given a mattock and a long handle square mouth shovel and allocated a measured section of channel to excavate.

The quantity of material in each section and the rate for that particular type of material would have been agreed upon prior to the work commencing. I had the job of measuring up the completed work as and when required by the workers. The method of checking the excavation was to check the cross section at each chainage point by a prepared template. In many cases the excavations were still filled with water and the only way of proving that both depth and side slopes had been achieved was by feel. Men on piecework received a weekly retainer wage. The amount that they earned above that amount depended on just how good they were with the shovel. The material was mainly a very sticky clay, which was not only difficult to dig but also refused to leave the shovel when it was shovelled out.

There was quite an art in removing this material. One of the highest paid pieceworkers was a wiry old chap, Ruben Smith, who always had time to stop and have a yarn, whereas many of the others wouldn't even put their head up as you went past. Ruben would put down his shovel, take out a battered old pipe and carefully fill the bowl with Champion Ruby mixture, light it, take a few draws and then launch into his latest story. After I had measured up his section, which was always perfectly trimmed to cross section and grade, I would bid him farewell and move onto the next section. By the time I had taken a few steps away from him, he would have the square mouth shovel in his hand and would be commencing to take out the next pay load of dirt. Every shovelful of clay that Ruben removed was a full shovel. He also seemed to have the knack of flipping the load from the shovel up onto the bank, even before he had completed the upward stroke. I remember that his pays were always twice what most of the other pieceworkers received, and yet he seemed to work at only half the speed.

Of course, there were other ways by which pieceworkers could improve their weekly earnings, and that was by not fully excavating the drain sections away from the check points. I overcame this by surveying in intermediate check points and taking random instrument readings along the excavation. Any work not excavated to grade was not paid for until the work was corrected. I often felt for the men who were on piecework. It was, however their choice as to how they wished to be paid. Most pieceworkers did much better than the men on straightout day wages.

CHAPTER EIGHT

LAKE GRACE 1950

The Lake Grace Camp

At the end of 1949 I was transferred from Harvey to Lake Grace as an assistant engineer to Jack Davis, who was the district engineer covering the construction of water supplies in the south eastern area of the State. It was also intended that I relieve Jack whilst he was on annual leave, which would be due shortly after my arrival at Lake Grace. The Lake Grace construction camp was located on the show grounds at the western end of the town. Accommodation was back to the standard 12 feet by 10 feet tent, similar to that which I had enjoyed at Katanning in 1948 and at Stirling Dam before that. A part of one of the buildings in the show grounds had been converted into a temporary construction office and store, with the office section, consisting of three separate rooms, partitioned off with hessian and interconnected. The first office was accessible from outside and was occupied by the works clerk Fred Lonregan and the wages clerk Don Higgins. The next office, accessible through the clerical office was occupied by the engineering surveyor David Petterson and myself and the last office which was accessible from the survey office was occupied by the district engineer Jack Davis.

Water Supplies in the South Eastern Wheatbelt

The work involved the construction of several water supplies throughout this region of the State, which included not necessarily in this order, the towns of Lake Grace and Kulin and local supplies at Dingo Rock, Holt Rock, Lake Biddy, Wave Rock, Newdegate and Pingrup. Where granite rock outcrops were used to catch the run off, walls, constructed from slabs of exfoliated rock removed from the outcrop were grouted in along the rock contour. The cut off drains so formed prevented the runoff from soaking in around the base of the rock and allowed all runoff to be diverted via a flume into a tank or via a drain into an excavated dam constructed adjacent to the catchment area.

Where earth catchments were used to collect the runoff, all vegetation was cleared from the catchment and the ground prepared by either rolling and levelling or by grading a number of parallel roads throughout the area or by a combination of both with the main collector drain leading into the dam.

Dingo Rock Dam

Being relatively a short time after the War, many building materials were in short demand, particularly timber. The dam at Dingo Rock, a few miles east of Lake Grace, consisted of a concrete wall built across one of the gullies in the rock outcrop. In order to overcome the difficulty of obtaining timber for the forming up of the concrete walls a local readily available substitute was used. This consisted of slabs of exfoliated granite, taken upstream of the dam, and which were used as formwork for the retaining of the low lift concrete pours. There were also advantages of this type of formwork in that it did not have to be stripped and it could also become an integral part of the structure.

Our work took us into contact with the farming community who in those days appeared to be pretty well off. At the time wool was fetching a pound currency for a pound weight and the local children were even making a few bob by gathering wool from the fences where the odd sheep had rubbed itself. Although money might have been plentiful in some areas, water wasn't and large quantities had to be carted to the farms and the towns from local standpipes. These standpipes were kept locked and applications had to be made to the Department or the local authority for water, which was rationed and charged out at a nominal rate.

I remember one incident when I was relieving Jack, when one of the local farmers wanted to see the engineer on a water supply matter. He inquired at the outer office and was told to go through to the end office, which he did. On seeing me working industrially at a table in the end office, he asked me if I knew where he could find the engineer. I replied that I was the engineer and could I help him. He looked in amazement, saying "Good God, you look as though you should still be at school." Such are the problems of eternal youth, I thought.

Corned Beef and Cabbage

The staff quarters consisted of a number of tents, which were occupied by Jack Davis, David Petterson, Fred Lonregan, Don Higgins and our cook come survey hand Bill Rattigan and myself. From time to time we also had engineering students staying at the camp. Our mess was a lean to located on the side of the camp opposite to our sleeping quarters. The meals were fairly standard. The menu also was fairly standard. It consisted of corned beef and cabbage for the main course and boiled rice pudding for sweets. The only time old Bill varied it was when we had cabbage and corned beef instead of corned beef and cabbage.

Sleeping with Dugites

The engineering and surveying involved quite a large amount of walking through areas of bush where snakes were quite prevalent. The subject of snakes was often a topic of conversation. It was suggested that on retiring, one should never get under the blankets without checking that there was not a snake curled up under them. The theory was that the warmth of the tents, which were often open, attracted snakes. The next night, just before I was getting into bed I suddenly remembered the snake conversation and decided that I would check my blankets first. I pulled back the covers and there curled up at the foot of my bed was a large dugite. I quickly rushed out of the tent, grabbed a straw broom, returned to my tent and proceeded to belt hell out of the inert reptile which had so wanted to share my bed that night. At the same time I called out to Dave Petterson, who was in the next tent, to give me a hand.

That same day, Dave had been out on the road near Lake Grace when he ran over a large dugite, killing it instantly. He, too had been thinking about the conversation of the previous night about checking under your blankets for snakes and decided there and then to retrieve the snake for my benefit. Whilst I was finishing tea he had sneaked into my tent, pulled back the bed clothes and quite professionally coiled the dead snake up at the foot of my bed and then made up the bed again. All I did was to "kill" a dugite which had been dead for several hours.

Sharpening the Axe

Our cook come survey hand, Bill was a rather moody person and much preferred to stay in the camp on the very hot days rather than to trudge through low mallee scrub knocking in pegs. His reason for staying in the camp was to work out the next weeks menu, which was beyond our comprehension, as we knew that it would not vary from our staple diet of corned beef and cabbage. On one particular day, Dave had had Bill working all day under the hot sun, cutting down low scrub along some of the survey lines at Pingrup. On occasions like this, when we arrived back at camp we would all hop in and get the meal, which would normally be cold corned beef with the cabbage being replaced with chutney. That night, Dave informed Bill that he would be required to carry on the scrub bashing rather than spine bashing the following day and that he should make sure that his axe was nice and sharp. Bill's tent was right next to Dave's tent and all that night David could hear old Bill sharpening his axe and at the same time muttering "I will get Petterson, I will, once I have sharpened this bloody axe."

Balancing the Books

Our works clerk Fred Lonregan had had a varied life, and was not unlike many of his colleagues whom I had met earlier in bush camps. He was a good bloke but unfortunately he enjoyed quite a few drinks frequently. He was always willing to walk up to the Post Office any time of the day after ten o'clock in the morning to check on the mail. It so happened that he also had to pass the Lake Grace Hotel to get to the Post Office. His job involved the meticulous longhand booking of all expenditure on all works in the area. The department insisted that good cost records be maintained at all times. Cost returns had to be produced monthly, and were to show the cost rate for the various components of the job as at last month, this month and to date. We also had to maintain internal suspense accounts for materials and plant on which internal transfers had to be made to reflect the true cost of a particular project. This was in the days of pounds, shillings and pence and before the advent of calculators. It was also in the days when accounts figures could not be rounded off and the books had to balance to the last halfpenny.

I remember one occasion when the monthly return was due and Fred had handed the return over to the district engineer Jack Davis for checking and then retired to the local pub for the evening. On returning to the camp late in the night he was confronted by Jack, who told him there was a discrepancy in the cost figures and that he required the figures to be corrected and to be on his desk without fail by eight o'clock the next morning. I felt quite sorry for Fred that night. Half pickled, he worked right through the night and had the revised hand written cost statement on Jack's desk at eight o'clock the next morning.

A Four Figure Man

One of my chiefs from Perth was Tommy Allison, who was very much respected by his staff and all those whom he met in the field. Tom used to stutter badly, but even with this impediment it did not detract from his dynamic nature. I found him to be one of the most helpful senior engineers I had met in the department. I remember well the time he and three or four of his field staff were having lunch in the dining room of the Kulín Hotel, when he announced quite proudly that he was now a four figure man. In retrospect, wages over the years certainly had their ups and downs. As I mentioned before I worked at Fremantle in 1944 on an annual rate of 52 pounds. My rate the next year in Whyalla was 160 pounds. Following graduation I entered the Public Works Department in January 1948 as a probational engineer on an annual salary of 364 pounds and by normal progression reached an annual salary of 800 pounds by 1956. It was always my aim to be a four figure man.

CHAPTER NINE

DALWALLINU 1951

The Briefing

The first construction job I had completely on my own was at Dalwallinu, where I was the resident engineer for the construction of several town and country water supplies in the north eastern wheatbelt of the State. Prior to this I had been working as an assistant engineer in the Lake Grace area. One day I was called to the head office in Perth and advised that I was being transferred to Dalwallinu for the construction of the Dalwallinu town water supply. If one was single, transfers in those days were very simple movements. All one had to do was to simply pack a bag and catch the nearest transport to the new destination.

In this particular case I was briefed by a senior engineer of the water supply branch of the department, who explained that I was to be based at Dalwallinu as the Department's representative in the north eastern wheatbelt areas and that my first job would be the construction and commissioning of a water supply to serve the town of Dalwallinu. My other duties would include the supervising of an itinerant tank and wells maintenance team who operated throughout the north eastern wheatbelt area and other duties as and when required. I was to learn later in my career that this phrase, other duties as and when required, was a good let out for the boss.

At the end of my first briefing the senior engineer pointed to a roll of plans in one corner of the office and said "Take that roll of plans. They cover the initial work involving the excavation of the earth dam which is to supply the water supply for Dalwallinu once the catchment area is prepared and after it rains."

He then pointed to a cupboard against one wall of his office and added "In that box you will find order books for requisitioning supplies from Government Stores and local suppliers. You will also find several bundles of plot cards, time sheets, wages sheets, cash order books, store cards, ledger books, store inventory sheets, stationery, lots of carbon paper, indelible pencils, envelopes, an assortment of survey recording books, drawing paper, and many other books which you will require from time to time."

There was more. "Over there", he said, pointing to another corner of the office, "is a theodolite and a dumpy level, an assortment of legs, a staff, a steel survey chain marked in links, two measuring tapes, a couple of plumb bobs, a reasonably sharp axe and an assortment of drafting equipment."

He then handed me over some keys, saying "Parked down next to the toilets is a grey Vanguard utility with the registration number WAG 1289. These are the keys to the vehicle. Once you have loaded on all the gear come and see me and I will brief you further."

When I returned, after locating the vehicle and loading on all the gear, my superior gave me the final brief. "As soon as you get to Dalwallinu", he continued, "see the Dalwallinu Road Board secretary, who will arrange for a temporary store at his depot and and who will supply you with one of his employees to act as your survey hand until such time that you can engage one yourself. Tomorrow you can put in reference pegs for the excavation of the earth dam and establish a permanent bench mark for your surveys." "I have arranged", he then added, "for the Department's low loader to drop off a D6 Caterpillar tractor and a 6-8 cyd scraper later this week at Dalwallinu and I suggest that you locate a suitable gravel pit close to the site where the plant can be unloaded. Also you should look out for the dozer driver who should be arriving in Dalwallinu about the same time."

He also requested that I ring him at his home in Perth every Sunday evening, so as to keep him up with the progress of the work. Although I later had a site office it did not stretch to such mod cons as telephones, so this arrangement continued for the duration of my stay in Dalwallinu.

Dalwallinu

In due course I arrived at Dalwallinu, booked into the only hotel, saw the road board secretary, stored my gear and then surveyed what was literally to be my home for the next year. At the end of my first week, excavation of the earth dam had commenced, a few tents had been erected using my first influx of labour from the south, and the survey of the catchment area was under way.

One of the first tents erected was for my accommodation. Apart from serving as my sleeping quarters it was also the site office by day. The type of accommodation provided, had not changed from my Stirling Dam days, being the standard 10 feet by 8 feet tent and fly for the workers and a 12 feet by 10 feet tent with a timber floor and weatherboard dado for the staff, which comprised the foreman, David Crombie, the works clerk, Don Higgins, the cook-cum-survey hand, Jack Keating and myself.

Dalwallinu Camp Staff Mess

The cook-cum-survey hand appeared to be an innovation on the standard awards which were prevailing at the time in that field engineers were not entitled to a cook unless they were a part of a survey camp or a part of a large field organization. This was overcome by appointing a survey hand and making the survey hand the cook and then appointing a chain man to do his work. Officially of course a staff mess did not exist at the water supply camp at Dalwallinu and therefore I was unable to obtain any departmentally supplied messing equipment, apart from that supplied to staff for batching purposes. This did not include a stove.

One of our priorities was to give ourselves a reasonable mess. This was achieved by constructing a bush shelter lean to, in which we built in a rather old and rusty No 1 Metters stove which we had salvaged from the local rubbish tip. Our cook Jack was able to do wonders on that stove, particularly after he had obtained sufficient inspiration from the ground floor of the only two storied building in the town. Our other mod cons comprised an open shower with hot and cold water. Over previous jobs I had developed a rather cheap but efficient hot water system made from three 44 gallon drums with one drum being the firebox and holding the heating coil, the second drum being the cold water feed on an elevated tankstand to provide sufficient head and the third drum being the hot water tank.

While on the matter of water, I would point out that most of the places in which I was based in my early career were areas where water was scarce. That was why I was there -to put in a water supply. All water used in the town to supplement any rainwater tanks had to be carted from existing local supplies.

Having the camp quite close to the town we were able to have the luxury of a pan system in our toilets. Some of the more basic toilets I had struck in short term camps comprised of a long trench and a seat, consisting of a pole above and along the trench and supported at each end on a forked stick. Depending on the span and the thickness of the pole, this type of toilet could cater for quite a large crowd at the one time. However, a good balance was required with this type of convenience.

It was at Dalwallinu, where I found that the most efficient clothes line for hanging out my washing was barb wire. Clothes were not easily blown off the line and it did away with pegs.

Tanks and Wells Maintenance Team

The foreman in charge of this team, George Warner, travelled with his team throughout the north eastern wheatbelt. As neither of us were on the phone, he would send telegrams to me now and then to let me know where he was working, or else we would make contact at pre-arranged times through the local roads board offices. Due to the nature of his work, he and his gang were paid from Perth office. When I used to visit him I would have to follow up leads as to his whereabouts through the local roads board office, the local store or pub. My first contact with him was when his team was working on a dam east of Bonnie Rock. It took me all day to locate him. I could usually tell where he had been by the work carried out, whether it be a pile of silt recently removed from the silt trap leading into the dam, a freshly painted tank stand or a reerected fence.

Clerical Duties

It was quite normal in the post war years for young engineers posted to the country to generally fend for themselves and carry out their own surveys and do all the necessary clerical work unless the "powers that be" thought otherwise. If the size of the job warranted it, consideration would then be given to appointing a works clerk to the site office and possibly a surveyor. The Dalwallinu job was no exception. Eventually, Don Higgins was transferred from Lake Grace to Dalwallinu as works clerk and relieved me of some of my duties.

However for the first five months or so, working from my tent I had to make up the time sheets and the wages sheets and maintain the various clerical records required by the department. Any errors made in the compiling of the wage for an employee had to be adjusted up or down in the next pay. If the employee had been paid off and he had been underpaid, the "paymaster" would have to pay the amount the employee was entitled to into unclaimed wages, which the employee could eventually pick up from the Accounts branch in Perth office. However if the employee had been paid off and he had been overpaid, the "paymaster" would have to make up the overpayment himself. In the latter case, the department would send out an advice, colloquially known as a green slip, which would detail the amount you owed the department through your error. Unfortunately, I received several of these forms during my first few months at Dalwallinu.

Camp Confessor

Another one of the duties of young engineers was to look after the camp and the general morale of the men within the camp. My job was no different. In these isolated areas, the workers living in the camps were not often held in very high esteem by the local farmers and townspeople. Admittedly there were quite a few derelicts, no hopers and drunks in the construction camp. At the same time there were some very good and loyal workers, who often through no fault of their own were forced into this type of existence. I remember one young chap, who was possibly my age, who came to me one day to ask for time off to go up and see the local doctor. I naturally agreed. A short time later he returned to the office, saying that the doctor had refused to see him unless he had money up front, which he didn't have. I then asked him what he thought was his trouble. He confided in me that he suspected that he had got VD. I felt very concerned, not only for him but for the health of the camp generally. I decided to immediately confront the doctor at his surgery and demand that he examine the man right away, for obvious reasons. As a young 25 year old and not that conversant on how contagious Venereal diseases were I was under the impression that VD could be transmitted through body contact with lavatory seats and the like.

The medico did agree to examine the young chap, who apparently was quite alright. I might add that as a result of my confrontation with Doctor Pickles, I had no further problems, where the health of the camp was concerned.

I might also add that from time to time, after this incident I enjoyed quite a few beers in the saloon bar of the Dalwallinu Hotel with the good doctor.

Sackings

My foreman, David Crombie was Irish. He was a good foreman but unfortunately he had a slight drinking problem. After work he would knock off and retire to the public bar of the hotel where he would get into some fairly solid drinking sessions with the blokes off the job. Later in the evening, arguments would develop and he would end up sacking half the gang, telling them to report to me first thing the next morning and pick up their pay. The next morning about half a dozen bleary eyed men would roll up at my office to inform me that they had been sacked the previous day and to ask if they could pick up their pay. I would then have to see the foreman to find out the reason for their dismissal, which had to be shown against every termination payment. David, of course would have no recollection of the previous night and would immediately reinstate the men. No doubt there were also a few men who would have been sacked the previous night and with no recollection of it would have just carried on the next day as though nothing had happened. I soon learnt to live with these clandestine sackings and unless the foreman gave reasons for the dismissals I completely ignored them.

Running the Rabbit

The water supply dam was located on the east side of the town and the elevated water storage tanks were, at that time, located on the western side and near the southern approach to the town. Water was pumped from the dam to the storage tanks through a four inch diameter galvanized iron pipe, which had to go under the Dalwallinu railway yards. To avoid any damage to the railway formation, should there be a leak or break in the pipe line, it was necessary to lay the rising main through several chains of twelve inch diameter reinforced concrete pipe culvert. Should there, then be a leak in the pipe line the water would be drained away from the railway yards by the pipe culvert. The pipe culvert consisted of twenty or more short lengths of concrete pipe which were laid in a trench excavated under the rail tracks.

It was proposed that once the culvert was finished the length of four inch pipe required to pass through the railway yards would be joined together outside the culvert and then pulled through the culvert. To do this, a long light string line, secured at one end outside the culvert was laid through each pipe as it was placed in position. After the last culvert pipe had been laid, it was then proposed to pull a heavier line through the culvert, attach the haul rope to end of the four inch pipe and winch the full length of galvanized pipe through the culvert.

The work commenced and all went to plan. The pipe culvert had been completed and nestling inside the end of the last culvert pipe was the string line. The required length of galvanized pipe was in position at the other end of the culvert, ready to be pulled through the culvert first thing the next morning.

The men starting collecting their tools. One conscientious worker saw the string line and decided that it should be retrieved, wound up and put away for the night with the picks and shovels. Next morning we found out that we had lost our life line. The culvert was too small for anyone to crawl through with another string line. Then someone had a brilliant idea. "The entrance to this culvert," he said, "is not unlike a rabbit's burrow. Let's catch a rabbit, tie the end of the string line to its neck, place the rabbit at the culvert entrance, clap our hands, let the rabbit go up the culvert as we quickly feed out the line."

And this is exactly what we did. In no time we were able to attach the heavier line to the string line and eventually winch the galvanized pipe through the culvert. I suspected that some one would have had rabbit stew that night?

The Blue Metal Incident

There was a certain amount of concrete work involved in the construction of the water supply as valve pits, the footings for overhead tanks, foundations for pumps and the overflow sill from the dam. Generally local aggregates were used, particularly gravel which contained a predominance of sand. In order to get a good mix it was often necessary to grade the material out to get the best particle size. As it is was then and still is, a mix with the least number of voids in the combined aggregates and with a low water/ cement ratio produced the best concrete.

My field office for the design of the concrete mix was the platform of the Dalwallinu Railway Station by kind permission of the Station Master. The station had the the only scales in town, which could handle the quantities which I had to mix.

I would load up the tray of the Vanguard utility with buckets and 4 gallon drums filled with sand, gravel and cement, unload them on the platform and proceed to weigh and calculate the density and the voids in each type of aggregate. From this information it was then possible to work out the proportions of graded aggregate, sand and cement required to produce a high strength concrete. I would then mix up a few trial batches, from which I would cast some cubes for ultimate testing at the University of WA. The cubes would be placed in boxes of wet sand and railed to Perth for delivery to the engineering materials testing laboratory at the university.

The results of the tests were generally satisfactory, bearing in mind the type of local aggregates which were available. On one occasion, which was the pouring of the concrete spillway, I felt that a better concrete mix should be used for the sill. At the top end of the water supply catchment were some large stock piles of blue metal right alongside the Dalwallinu to Kalannie road. I looked longingly at these piles and decided that a few cubic yards taken from one of the piles and used in the next few batches of concrete would improve the concrete pour and would not be noticed by the owners of the blue metal. After all, I felt that the Main Roads Department who owned these stockpiles and the Public Works Department who were about to borrow a few barrow loads were practically brothers anyway.

The next week I had a visit from Albert Tognolini, from the Main Roads Department, who had been hastily sent up to Dalwallinu to investigate the suspected stealing of blue metal from stockpiles at Dalwallinu by persons unknown. He had decided to see me first as he thought that being close to the stockpiles I would be aware of any suspicious movements of trucks in the area. He said that his department suspected that some of the local farmers were helping themselves to the blue metal for various concrete jobs around the farm. I had to confess that I was the culprit. Albert had no option but to report this back to his head office. Shortly afterwards I was summoned to my Perth Office and had to face my chief and a senior officer from the Main Roads Department to explain my action.

I must admit, that at the time, I thought the whole affair was completely blown out of all proportions and I could not take it seriously. When I was asked to elaborate on the incident, I said that a part of the stock pile from which the blue metal had been taken would eventually impede the flow of water from one of the catchment feeder drains. It was therefore necessary for a part of the stock pile to be removed, for which no charges had been raised against the Main Roads Department.

I also added that through a misunderstanding the truck driver had taken the blue metal back to our concrete mixing site and dumped it alongside our inferior pile of graded gravel, instead of replacing it on one of the other blue metal stockpiles. On looking back it was no doubt a very weak excuse, but suffice to say it was accepted with tongue in cheek by the two superiors.

Local Accounts

Whilst in Dalwallinu I got to know the local store keepers and service people fairly well. Although all our bulk stores came from Government Stores a certain amount of materials and services were obtained locally. Government Stores were not very happy about stores being obtained on a Local Purchase Order as it defeated the tender system for supplies. One day, I was talking to one of the local farm and tractor supply agents, when the subject of sending out accounts cropped up. He said that farmers often used to drop in to pick up a machinery part or some other item, asking him to book it out to them and they would pay him the next time they came to town. He said he would often forget to record the sale and when the end of the month came and he did his stocktake he would find that he was short on some items. He gave me an example, explaining that at the end of one month he found that he could not account for four Exide batteries so he decided that he would send out an account for one Exide battery to every one he could recall selling a battery to in the last month. He said that he was quite surprised to receive payment for ten Exide batteries. I was quite impressed with this method of book keeping.

After the completion of the Dalwallinu water supply I moved to Morawa, some 100 miles north. This, like Dalwallinu involved the excavation of a dam, the preparation of a catchment area with the necessary runoff drains, the erection of storage tanks, the general reticulation of the town and the connection of water services.

Like Dalwallinu, my first contact at Morawa was with the Road Board Secretary to scrounge some temporary storage in the Board's depot for construction stores, gear and plant. On my first visit to Morawa to make these arrangements, I had with me a young student engineer George Prgomet, who had been allocated to me during the University summer vacation and who was going to assist in carrying out some preliminary earthwork surveys on the construction site.

On arriving at Morawa I drove around to the Board Office and introduced myself and my assistant to the Road Board Secretary, Herb Williams, who suggested that on account of it being a pretty hot day we might be better off discussing our requirements over a cold beer in the Morawa pub. This we did. It was while we were on our second beer that George stepped outside the front door of the saloon bar to retrieve some papers from our utility, and immediately rushed back in exclaiming that Victor Munt, our big chief from Perth, had just pulled up in his car in front of the pub. I told George, that he must be imagining things as Victor Munt would have advised me if he was going to pay us a visit and beside he would not have known our day by day movements. I was wrong. It was Victor Munt, my chief from Perth Office, who shortly after George's return entered the saloon bar. I must admit that, at the time I felt rather sheepish, in that I had been caught out - drinking in a pub during working hours.

I immediately introduced my Chief to the Road Board Secretary explaining the purpose of my visit. Apparently Mr Munt had sent a telegram to Dalwallinu advising me of his pending visit, and which I had not received. When he arrived at Dalwallinu, my foreman David Crombie had told him I had gone to Morawa for a few days to organize the job up there. Mr Munt then decided to drive onto Morawa to catch up with me. After the introductions and explanations, Mr Munt then suggested that we all have a drink on him, before we inspected the construction site. I always remember Victor Munt for his preference for single engineers rather than the married type.

He said that single engineers were always quite happy living in a 12 feet by 10 feet tent with a cyclone stretcher, when they were sent to a construction site. Married engineers on the otherhand could be most unreasonable, in that they asked for two tents and in some cases even suggested that the department should provide a house complete with a fireplace and wooden floors. Mr Munt's biggest worry was that young single engineers might meet someone on one of these remote construction jobs and end up getting married.

Morawa Camp

Like most of the Public Works Department smaller construction sites in the early 1950s, the conditions for the workers were not that wonderful. Tradesmen, plant operators and labourers were issued with a standard 10 feet by 8 feet tent, a cyclone stretcher with a straw palliased and a kerosene hurricane lamp. In the initial stages of the camp the worker had to put up with a dirt floor. A trench was usually dug around the periphery of the tent to divert any surface water away from the floor of the tent. Outside the opening to the tent a rough pile of stones denoted a fire place with a tree branch, supported on two forked sticks, carrying a few cooking utensils over a log fire. Between working up to ten hours a day and spending a few hours at the local, there was not a great amount of time available for meal preparation.

Camp Stew With Ants

There was one bulldozer driver on the job, who had overcome this problem very successfully. Joe would prepare a very substantial beef stew in his camp oven on the Sunday. This would be very slowly cooked over the log fire between the two sessions at the pub.

He would have his first meal of stew on the Sunday night after which the lid would be placed on the camp oven and left just inside his tent. After knocking off work on the Monday, he would get the fire going again, place the camp oven on the fire, retire to the pub for a few pre dinner drinks and return a few hours later to a nice hot meal of stew. This process was repeated night after night, with some curry being added in varying proportions as and when it was required.

I remember one evening, when I had gone over to see Joe, possibly, a Wednesday, just as he had returned from the hotel and when the contents of the pot would have been somewhere near the half way mark. I couldn't help noticing that his camp oven was swarming with ants. He apparently hadn't put the lid on firmly the previous night. When I commented on this, he said that it was quite alright as the ants would only have been eating his stew and beside that they would all be killed when he heated up the camp oven. I might add that I declined his offer to stay and join him in a meal.

Politics in Motion

It was whilst I was in Morawa I had my first introduction to politics. During the excavation of the dam, decomposed rock, the presence of which had not shown up in the test drill holes, was encountered near the centre of the dam and only a few feet under the surface. Although it was possible to remove the hard material using a tractor drawn ripper it meant that the work was going to take much longer and the finishing date would not be met. The finishing date would no doubt have had some connection with an election promise.

It also happened that the Minister for Works at that time, David Brand, was also the member for the area, who in the presence of the Director of Works, Russell Dumas made a short visit to the construction site. I was asked by the Director to give an indication as to when the excavation of the dam would be completed. I gave a figure which went well beyond the required completion date. I was then asked by the Director and the Minister what would be required to speed up the work. I thought the answer would be obvious - just more earth moving plant such as a more powerful tractor, say nothing less than a D8, a 10/12 cubic yard scraper and another ripper. The Director and Minister noted my comments and duly went on their way.

And so I thought, that was that, and back to the slow wearing away of the decomposed rock. Then two things suddenly happened, within less than two days of that visit. I can not remember in which order. One was an urgent telegram from my boss in Perth requesting that I ring him immediately and the other was a telegram from Plant Engineers in Perth to advise that a D8 Caterpillar tractor, a 12 cubic yard scraper and a heavy duty ripper had been loaded onto the Department's low loader at East Perth and were on their way to Morawa.

What transpired was that the Director, after leaving Morawa had rang the heavy plant section in Perth and instructed that the required earth moving equipment be dispatched immediately to Morawa, even if meant taking it off some other job. My chief in Perth, who was answerable to the Director, was furious because the plant now on its way to Morawa had been earmarked for some other job down south.

Bogged

My job at Dalwallinu and later at Morawa required me to do quite a lot of driving over dirt roads and old sandalwood tracks.

I would generally travel on my own and on most nights return to my base camp. On the odd occasion I might stay overnight at the Koorda, Bencubbin or Muckinbudin pubs. I was aware of the fact that I could easily break down somewhere out in the mulga or get badly bogged, particularly on tracks near rock catchments after there had been the slightest rain. I learnt the hard way that it was far better to drive through a puddle filled with water than to try and drive around it. The theory is of course, that the fact the water has not soaked away, the ground must be less soft than the ground around the pool of water. I didn't know about this until I got well and truly bogged right down to the axles on an old sandalwood track, north of Vialki on the Kulja Bonnie Rock line. I had read somewhere that one way of extracting a badly bogged vehicle, if you haven't got a winch is to wind it out using the crank. In those days most vehicles had cranks. Now they only drive them. The first thing to do was to jack up the vehicle and place bushes under the bogged wheels, remove the spark plugs, put the engine into the lowest gear, which was usually reverse, prepare a bed of sticks and bushes leading out onto firmer ground and then slowly, ever so slowly, turn the crank and wind yourself out. I can assure you it does work, but you wouldn't want to be in a hurry to go anywhere.

Goodbye to Morawa

Due to the decomposed rock and fault lines found during the excavation of the Morawa dam, it was decided to line the floor and side slopes of the dam with concrete to eliminate any water losses through seepage.

The design called for the casting in situ of thin 14 feet by 14 feet reinforced concrete slabs on a checker board pattern over the floor and up the batters. It was proposed to pump the concrete grout through a portable pipe line, from a central mixing area and place it into the specially prepared panels. This required the floor of the dam and the side batter to be perfectly trimmed by hand prior to forming up the sides of the slab. A continuous reinforcement mat was then placed over the floor and sides of the dam, after which the squares were then hand pitched with rocks of about 3 inches diameter.

The concrete was to be placed as a rich grout filling in the voids between the hand placed rock, and then being screeded off to a smooth finish.

The batching plant consisted of several independently engine driven items, which were required to all work in unison. The plant was set up on an earth embankment on one side of the dam and above the berm of the dam. The batching plant comprised an engine driven water pump to pump water from the water truck into an elevated tank which fed the concrete mixer. The concrete mixer also relied on a small diesel engine. Next to the concrete mixer was a long trough not unlike a cattle trough, which received the grout from the mixer, and where it was stirred continually by a long engine driven paddle. The next item of plant was the grout pump itself, which was driven by a cantankerous Petters diesel engine. From this point the grout was pumped through lengths of quick release ball jointed pipes to the particular prepared floor or batter panel. In the dam itself was an engine driven screeding board and an engine driven filcat machine. All in all there were six engines, which all required to be working at the same time. If any one of them packed up there was trouble.

The most essential part of the exercise was to keep the grout moving through the pipes. Once it stopped moving you ended up with one hell of a blockage, requiring all operations to stop, the pipes to be disconnected, cleaned out, reconnected and flushed before work could proceed again. If the engine on the water pump or the one driving the concrete mixer broke down, concrete batching would stop and all grout in the agitator, the grout pump and the pipeline would have to be flushed out, before concrete operations recommenced. If the engine driving the long mixing trough, appropriately named an agitator, packed up, batching operations had to stop and all grout contained in the system ahead of the agitator had to be removed and flushed out.

When the grout pump stopped, the whole works came abruptly to a standstill. All the ball joints on the delivery line had to be disconnected, the individual pipes cleaned out and reconnected. The ball joints were specified as being a quick release type, which was not always the case, particularly after some of the grout had weeped through the joint and cemented the ball to its housing.

The whole system was beset by problems. I seemed to spend all my time, during a concrete pour, just cranking temperamental diesel engines. The Petter type diesel engine, which most of the engines were, was started by a hand crank which drove a large fly wheel, the momentum of which compressed the fuel in the cylinder, causing it to ignite and merrily chug away.

The very heavy crank handle was not meant to be a fixture to the drive shaft and in theory came away once the engine started. However, two things could happen. The first was that the drive shaft would not immediately release the handle and it would make several revolutions with the flywheel, before being set free to fly like a projectile and make an indent on anything or anyone in its path. The second thing which could happen was that if the operator tried to physically wrench the handle from the shaft, the momentum of the fly wheel could just as easily break his wrist. One, therefore had the option of either being hit on the head with the flying handle or else ending up with a broken wrist.

On one particular hot day in December 1951, I had a visit from several of my chiefs from Perth Office, who had come up to Morawa to see firsthand how the concrete work was progressing. At that stage the grouting of the dam was about half completed. It was not one of my days. Murphy's Law states that if anything is to go wrong it will go wrong when you least want it to. It was Murphy's day.

Everything was progressing reasonably well and the concrete grout was flowing perfectly into the pads in the floor of the dam. It was then that my chief and his two deputies turned up to view the progress from the top of the dam. Then it happened. First of all the agitator engine stopped and wouldn't start. When at last I got that going the concrete mixer broke down. When that was fixed the engine driving the grout pump suddenly died and just wouldn't fire. This meant that all the pipes in the grout delivery line had to be pulled apart and cleaned out. Several of the quick release couplings didn't quick release.

After the site mechanic and the foreman had spent a few hours locating a blocked jet and replacing it and the grout pipes had been reconnected we were back in business. But not for long. We then got a blockage in the delivery line, with no blame being attached to the engines, just something left in the pipe when it was reconnected shortly before.

And so the day wore on with several more breakdowns. I was not very happy about it. My chief was even less happy. That night in my 12 feet by 10 feet tent in the flickering light of my Tilley lamp I wrote the letter that changed my life. I applied for a transfer from Morawa. I was in due course, transferred as assistant engineer, to Bunbury Harbour Works.

CHAPTER TEN

BUNBURY HARBOUR WORKS 1952/57

The Transfer to Bunbury

At the end of 1951 I was transferred, at my own request from Morawa to Bunbury. This was to be my last transfer as a single man. As I had applied for the transfer, I did not receive any financial assistance to cover my moving costs. However, this was of no consequence, as all my worldly possessions were quite small and fitted into one medium size suit case. I duly arrived at Bunbury and booked myself into Koombana House in Victoria Street. This type of accommodation was certainly a step up on anything I had had over the last three years. At the same time, it was also going to cost me a lot more than my previous digs. I had to share a room with another guest, who turned out to be a very good room mate.

The Harbour Works Office was located in the ground floor of the Gordons Hotel at the harbour end of Victoria Street, less than half a mile from Koombana House. The Harbour Works office and the Bunbury Harbour Board office occupied two large rooms with street frontage at the southern end of the hotel and adjacent to the main entrance to the hotel.

Bunbury Harbour Works Office

The resident engineer was John Gillespie, whom I had met when I had been working at Fremantle Harbour Works as a student engineer during the 1944/45 university vacation. This was the first time I had worked in a large field office. Well it did seem large, when compared to some of the offices I had occupied in previous years. The office was partitioned off into three sections, which provided for a public counter at the entrance, a small room for the resident engineer at the front and a large area for the clerical and survey staff at the rear. The clerical staff comprised a works clerk, two wages clerks, a time keeper and a stores clerk. There was also an engineering surveyor who spent most of his time in the field and a wages clerk based out at Roelands Quarry, who came under the umbrella of the resident engineer.

I joined the organization at Bunbury as an assistant engineer to John Gillespie who, I am sure at the time, was not so pleased in being given an assistant, whose only harbour works experience had been for four months as a student engineer at Fremantle Harbour Works. At the same time that I had applied for a transfer from Morawa, my predecessor at Bunbury, Clem Eaton had also applied for a transfer away from Bunbury. Clem ended up taking my place at Morawa and I ended up taking his place at Bunbury. Even to this day I still think I got the better part of the deal.

The Harbour Works

At the time I arrived in Bunbury, port works were a hive of activity. The timber jetty was being extended by six hundred feet to provide for two more "deepwater" berths. The Lobnitz Rockbreaker was pounding away at basalt outcrops on the harbour bed and there were two dredges, the bucket dredge Parmelia and the cutter suction dredge Governor, operating in the harbour. The main breakwater was being extended with rock being railed to Bunbury from the Roelands quarry, some fifteen miles away. The new ocean cut through to the Leschenault Estuary had just been completed. There were over one hundred and fifty men being employed on these works between Bunbury and Roelands.

The Rail Trolley

All the workshops associated with the works at Bunbury were located on the shore close to the foot of the jetty. The transport of most plant and materials was carried out by rail. We had a gang whose main job was the laying of rails tracks on the shore to the breakwater and to the jetty. Most of the plant was rail mounted, including air compressors, welding plants and cranes. We had our own small steam locomotives to pull rail wagons along the internal rail system at Roelands and Bunbury. Some of the smaller gear and materials were loaded on to small rail trollies and pushed along by hand. On one occasion, the leading hand carpenter placing the beams on the jetty extension had asked one of his gang to hop on his bike and ride down the jetty to the workshop and bring back an empty rail trolley.

Doughey did as he was told and returned an hour later pushing the rail trolley with one hand and wheeling his bike with the other hand. The rail setup on the jetty consisted of the main line and a number of loop lines at each of the jetty berths. At the take off to each loop there was the normal points system with a tumbler to switch the blades from one line to the other. It was the practice, as applies to gates in rural areas to leave the points as you found them. When the leading hand asked Doughey, what had taken him so long he replied, "Well, you know there's a lot of points to be changed along the jetty between the shore and here and every time I came to one, I had to first of all put down my bike, walk over to the tumbler, throw the switch, push the trolley through and then go back and reset the tumbler." Then he added, "Secondly I had to then walk back to my bike, pick it up and wheel it back to where I had left the trolley. That all took time."

The leading hand carpenter, stood back in amazement and said "Why the hell didn't you put your bike on the empty trolley?" And Doughey replied, "Gee that's not a bad idea. Why didn't I think of that?"

The Call for the Blacksmith

Sometimes during the dredging operations, the suction dredge would pick up an old discarded long steel bolt from the harbour bed which would become jammed between the pump impeller and the pump casing. When this occurred it would be necessary to stop engines and remove the obstruction. In some cases it could be pulled out by the crew. In other cases the obstruction would have to be cut out with an oxy/acetylene torch. This would require the blacksmith to be brought out to the dredge. On one particular occasion, a large bolt had been jammed in the pump and required the blacksmith. There was no radio contact with the blacksmith shop and it required someone go ashore and get him. The dredge master hailed the launch and sent none other than Doughey to go in on the launch get the blacksmith.

A short time later the launch returned to the dredge, dropped off Doughey and went back to its mooring. Doughey continued doing what he had been doing before he was sent ashore. In the meantime, the captain having seen the dredge return, assumed that George, the blacksmith had been dropped off.

When he realized that there was no blacksmith on board, he accosted Doughey, saying, "Where in the blazes is the blacksmith?" The bland reply from Doughey was, "Blacksmith? You know I did see him on shore but I couldn't remember why I had gone to see him. We spend some time talking about the chances Railways had of winning the next match. But for the life of me I can not remember what else I had to do."

And the words of the dredge master were unprintable

An Office in a Hotel

Having an office located in a hotel produced some interesting facets. We would often have hotel patrons, in quite an inebriated state come up to the public counter and demand another pot. Also the fact that a government vehicle was often parked outside the hotel produced a few letters to the Daily News, wanting to know what VAG 1269 was doing parked outside the Gordons Hotel for most of the day. One of the items provided in the office was a small caliber revolver and two bullets. It was a requirement of the Accounts branch that these items always accompanied the paymaster on the weekly pays. The men would be paid each Friday, wheresoever they were - out on the jetty, on the dredges, at the end of the breakwater or out at the Roelands quarry. And the revolver would always go with him.

One morning, just after the pays had been made up two of the clerks, Alan Carter and Dennis Roberts were discussing the merits of taking a loaded revolver on the pay run and wondered if it was capable of being fired. Half expecting that it would not fire, one of them pointed the revolver up at the ceiling and pulled the trigger. There was a flash of flame and one loud explosion which reverberated throughout the office. And in the plaster above was a small hole.

They were immediately concerned as to where the bullet ended up and decided to check upstairs in the hotel. They located the room directly above the office. It was the lounge and sitting in two arm chairs were two elderly ladies knitting. Alan and Dennis asked them if they had heard anything. They replied, "What was that boys? You will have to speak up. We are a trifle deaf." They never did find out what happened to that bullet.

How to get Fired

The senior clerk was Charlie Mathea, who I had met previously when we were both working at Stirling Dam. Charlie was then one of the clerical team at the dam. To me, he was a very cantankerous old man. I used to take Charlie out to the Roelands quarry each Friday on the pay run. There were about sixty men or more at the quarry, who were housed in a camp near the Roelands settlement. On the way out to the quarry, Charlie would complain to me about his rotten staff and how he would have to get rid of some of them. He told me that the first one who would have to go was Alan Carter and that he had decided on how he was going to fire him. He said, "I will give Carter so much work, that he won't be able to finish it the time I would have allocated to him. I will then fire him for not being able to do the work." "Or else," he added "I won't give him any work at all and then fire him for sitting around doing nothing."

After the men had been paid, I would go off with the foreman, George Hogg, to discuss the rock requirements for Bunbury for the following week and Charlie would retire with his Roelands based clerk to his quarters a little way up the hill from the office for a "cup of tea". When I had completed my business with George we would both return to the clerk's quarters to pick up Charlie and return to Bunbury. As we approached the hut, we never heard any noise coming from the area. When we walked in we would be greeted by two grim faced figures, not speaking but just glaring across the table at each other. I believe this was quite normal. Griff, the quarry clerk had no time for Charlie and Charlie had no time for him. And all the way back to Bunbury, Charlie would tell me that the clerk at the quarry was no good and he would have to go.

Communal Thunder Boxes

The camp toilets at Roelands consisted of one long thunder box with a number of holes set over a deep trench. To give some degree of privacy, the seats were partitioned off, but the front remained open. One toilet was provided for men and one for women. At the time we had a number of married "new Australians" living in the camp and some of the women were not particular about which one they used. This often caused some embarrassment to the single men, who would be joined by ladies in the adjoining cubicles, who would enter into deep conversation, detracting from the job in hand.

The Quarry

Prior to my arrival at Bunbury, a spectacular blast had been carried out at the Roelands quarry to bring down enough rock for the main breakwater extension and a number of ancillary groynes in and around the harbour. The method used was termed a coyote blast, whereby a drive was blasted into the face of the quarry for some distance and at bench level. A large chamber was then blasted out at the end of the drive and loaded with a designed amount of AN 60 gelignite. The drive was then sealed and the explosives detonated electrically from some distance away. The resulting blast had the effect of lifting and splitting the diorite and granite at the quarry face, rather than completely shattering it. In quarrying operations, there is always a large amount of small rock and rubble produced in the blasting process. The coyote method tends to reduce the proportion of rubble to the total quantity of rock blasted. For the extension of the breakwater at Bunbury, which was nearly a mile out to sea, there was a requirement for large rock armouring on the sides and end of the breakwater. This method of blasting gave the required size of stone. Even then, some of the larger stone had to be drilled and shot to bring it down to the size which could be loaded by the cranes in the quarry and the rail wagons transporting the rock from the quarry to Bunbury.

The large capacity cranes working in the quarry were mounted on rails which were extended as and when required up to the quarry face. The cranes all carried a heavy timber protection mat, which was suspended from the jib of the crane when any large rocks had to be popped. The empty railway wagons were assembled in marshalling yards a short distance from the quarry and pushed on a prepared track up to the quarry face and loaded one at a time. They were then "ridden" down with the brake on, back to the marshalling yards and assembled ready for the descent down the escarpment to the Roelands railway station on the coastal plain below. The descent was quite steep and the stone wagons were partly braked on the way down. On one particular steep part of the descent there was an emergency run off should the brakes fail.

The rakes of wagons were then assembled at the Roelands rail siding and taken over by the Western Australian Government Railways for transport to the department's marshalling yards at Bunbury. Any empty wagons at Roelands were then returned to the quarry.

Bunbury Breakwater

At the Bunbury end, the full wagons were taken over by the harbour works railway organization, for transport to the breakwater and for the unloading. Two types of wagons were used, one for side tipping and one for end tipping. There were three sidings at the end of the breakwater, one on each outside face of the breakwater as close to the edge as safety would permit for the side tipping of rock and one down the middle to the head of the breakwater for the end tipping of rock. The sidings were laid over the rubble core of the breakwater and ballasted with quarry rubble. As the tip head advanced the sidings were extended. The progress of the work was recorded weekly, using reference chainages on the sleepers carrying the rails.

When ever there was any bad weather, several feet could be lost off the end of the breakwater. I remember there was one stage when the breakwater head receded several chains over a matter of weeks, due to continual heavy seas. This was not really a problem, as the heavy rock would still be acting as a part of the breakwater but with a slightly flattened cross section over the sea bed. It did, however look very misleading when the records showed that one thousand tons of rock had been placed in the breakwater over a certain period, whilst the breakwater had been reduced in length by thirty feet over the same period.

Lift Those Rails

Platelaying, the term used for laying railway lines and its associated works was in progress continually at Bunbury. It was heavy work and demanded some co-ordination when rails were being handled. The ganger in charge of the platelaying was Tom Herring, who at times suffered from a bad stutter. However that did not stop him from being a well organized operator. He had devised a numbering system when loading rails onto the rail wagon. He would line up his four or five men in front of the rail and proceed to call out numbers designating each stage of the lifting and loading exercise. He would call out number one and the men would bend over and take a grip on the rail.

This would be followed by number two, when the men would lift the rail and straighten up. The call of number three would signify that the rail be then placed on the wagon. His idea was good. It meant that everyone was taking a share of the load. Unfortunately, Tom's stutter was worst on the "th" sound. One very hot day in February, Tom's gang were loading rails by the number system and having picked up the rail were now waiting for the next command. Tom kept mouthing the "th" sound, several times but could not complete the word. In the meantime, his gang were getting quite impatient at holding a hot heavy rail half way between the ground and the rail wagon.

In the end, one of his gang said, "Look Tom, bugger this for a joke. You take my place in the gang and I will call the numbers."

Boats by the Score

Working in such an environment as the harbour, boats were always a talking point. There was always a lot of discussion on what are boats and what are ships. To avoid any confusion I used to refer to them as vessels. The engineering surveyor at the works was Alan Porter, who came from Kings Lynn in Norfolk. In those days Alan had quite a strong accent. One day we had been discussing the amount of foot slogging required when carrying out surveys over on the north shore at Bunbury and how boats could provide far better access to the area. Alan nodded and suddenly out of the blue said, "Boats! I had lots of boats back home." We were all impressed.

We found out later that the boats to which Alan referred were the ones normally worn with socks.

The Guard Dog

Now and then the resident engineer would bring a load of fire wood back from Roelands quarry for his own use. One day it was suggested that Alan take the government utility and pick up a load himself from Roelands. This, he subsequently did. He also took his pet collie dog "Punch" with him. After unloading the firewood he returned the vehicle to his chief. The next morning Alan had an irate phone call from his boss, asking him to come around to his place and get his hound, who was standing guard over the utility and wouldn't let him near it.

Dredge Quantities

Every week or so I would have to send information to my Perth office, detailing the progress of the dredging in the harbour. This required soundings to be taken over the area dredged and the amount removed for the period calculated. This was no problem, except at times due to other work commitments it was not always easy to meet the deadline. Then I thought I had a quick solution. I could obtain from the dredge logs, the total pumping hours for the week and I could also obtain the hourly pumping rate of all materials being discharged to reclamation through the delivery line. Then I thought that if I took several large samples of the material coming out of the discharge pipe, and allowed them to settle out overnight, I could then obtain the percentage of solids in the sample. By then doing a simple multiplication sum I could come up with the quantity dredged for the period concerned. I knew that I would still have to carry out surveys at some time or other, but I felt that this would suffice as an interim quantity.

I put the plan into action and took samples twice each day, hoisting myself up over the delivery pipe and thrusting a large glass container into the black mixture coming out of the end of the pipe. It seemed to work. I was able to come up with a figure at the end of the week, which looked reasonable; possibly a little higher than normal, but after all there was a good thick mixture coming out of the delivery pipe.

I didn't intend to, but something cropped up so I repeated the process the following period and again phoned the calculated quantity to my Perth Office. Next week I carried out a survey and found that my previous calculated quantities were way out. I had miscalculated by thousands of cubic yards. I could not understand how I could have been out by so much. Then it came to me. Everytime the pipe man on the dredge saw me going out to the end of the pipe to take a sample, he thought I was checking on his output, so he simply buried the end of the suction pipe deeper into the dredged face on the sea bed. As soon as I had taken the sample, he lifted the pipe slightly to return the delivery to a leaner mixture. Had he kept pumping the richer mixture, no doubt in a very short time the pump would become blocked and all systems would have stopped.

I, subsequently rang my chief in Perth who abused me for the error but thanked me for letting him know.

Single Accommodation

While I was in Bunbury I lived in eight different places, five as a single man and three as a married man. Being a prime holiday resort, finding accommodation was not easy. When I first arrived in Bunbury I stayed at Koombana House, which was the top accommodation and top prices. I did not receive any allowances and therefore it was necessary for me to find cheaper lodgings as soon as possible.

The first full board I obtained was with a Mrs Caddock who had a small three room house in Wittengoom Street. Max Lock, my room mate from Koombana house, and I shared one room. A young engineer from the Railways had a bed on a very small front veranda. The next room was Mrs Caddock's and the last room was the kitchen/ dining / lounge. There was a small lean to bathroom and toilet tacked onto the back of the single frontage house.

Not being very impressed with tinned sardines and cabbage as a regular "special treat", Max and I moved to Mrs Prosser's guest house in Arthur Street which was a big improvement. However we felt sharing a flat would be more economical. Apart from a short stay in a guest house run by Frank Hafnick in Haig Crescent, I eventually moved into a flat owned by Sister Courthope in Picton Crescent, which I shared this time with Frank Thomson, a licensed surveyor in Bunbury. This flat which was high up in Picton Crescent, just below Boulters Heights had one of the best views in Bunbury. It also had a large open fireplace, in which there would always be a welcoming coal fire burning in the winter months.

Marriage

There were three very important events, which took place in Bunbury after I had been there for only a relatively short time. In chronological order, the first was the transfer of my boss to Perth and my elevation to Resident Engineer, Bunbury Harbour Works. The second was meeting Elsa at a golf club dance at the end of 1953 and our marriage some twelve months later on 15th January 1955 and the third was the birth of our daughter Yvette on 28th November 1956. I often think that if that grout pump hadn't played up at Morawa, my life would have been completely different.

Married Accommodation

Our first married accommodation at Bunbury was a sub standard one bedroom flat in the front of an old weather board house in Stirling Street, South Bunbury. The only toilet was a pan set up in a dilapidated corrugated iron cubicle located at the back of the block and which was used by the landlord, his wife, three children, another couple who shared the other one bedroom flat next to ours and us. A small green enamel electric stove, which gave electric shocks was located in a partitioned off section of what would have once been the main entrance to the house. and was now called the kitchen alcove. One end of the front veranda, which was almost on the street had been partly enclosed to form a very basic bathroom.

Fortunately, we had only been in this flat for a short time when a very good flat came vacant in Kingia Street, South Bunbury, just off Beach Road and only one street back from the beach. This flat was one of a number of flats which had been built as such. The flat had a good kitchen, a lounge dining section, two bedrooms and a bathroom and toilet under the main roof. There was also a veranda and garden and lawns at the front and back. The weekly rent for the flat was five pounds and my gross weekly earnings were just under sixteen pounds.

At this stage I had not been entitled to a departmental house although I had requested one. With the advent of the building of the new power station on the north shore at Bunbury, the government agreed to provide houses for the married staff associated with the building of the station. The Harbours and Rivers Branch became responsible for the foundation work and cooling water intakes and outlets associated with the station. As a result of this four government houses were provided for engineers at Bunbury and one, in Mouarn Street, Carey Park, Bunbury was allocated to me.

Goodbye to Bunbury

We had only been in this house a little over twelve months when I applied for a vacancy in the Goldfields Water Supply Branch, which would be a promotion. I was successful in getting the job.

We left Bunbury in March 1957.

BUNBURY



On my arrival in Bunbury I first stayed at Koombana House in Victoria Street. I then boarded with a Mrs Caddock in Vittencoom Street and then with a Mrs Prosser in Arthur Street. After that I shared a flat with Frank Thomson in Pictou Crescent. After Elsa and I were married in January 1955 we moved into a very sub standard one bedroom flat in Stirling Street, South Bunbury. Later we moved into an up market two bedroom flat in Kingia Street, only one street back from the beach. We then moved into a small departmental house, photographed above, in Mouarn Street, Carey Park, which, was on the outskirts of Bunbury.



The town of Bunbury taken from Boulsters Heights in the mid 1950s. The population of the town was in the order of 10,000. Note the old red brick post office on the right hand side of the photograph.



BUNBURY 600 FEET JETTY EXTENSION - 1952 -
From 1952 to 1957 I was based in Bunbury, initially as an assistant engineer and later as Resident Engineer, Bunbury Harbour works. The following photographs show various stages of the construction of the jetty extension.

Top LHS

Transporting the gunited piles from the pile yard jetty to the construction site.



Top RHS

Pitching the pile.

Middle LHS

Driving the pile from one of the two outriggers.

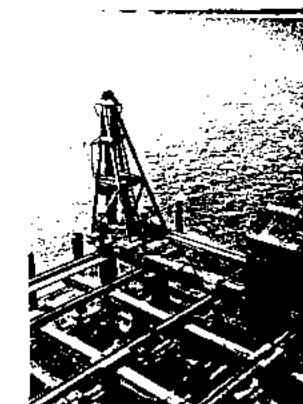
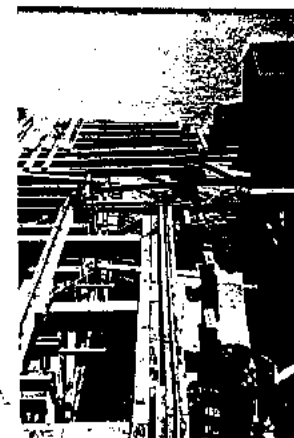
Middle RHS

General view of the two pile driving outriggers at the jetty head.



Lower

Views of outrigger. The pile frame travelled on flanged wheels on the outrigger across the jetty, one frame covering 6 pile positions and the other covering 5 positions. The outrigger itself travelled out over rollers supported on the preceding half caps, which allowed for the outrigger to cantilever out to 12 feet, the distance between the piers.

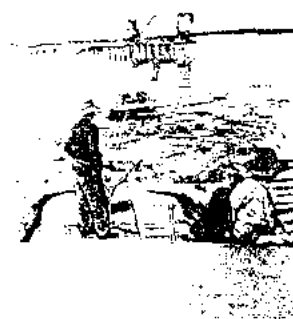




On my arrival in Bunbury I first stayed at Koombana House in Victoria Street. I then boarded with a Mrs Caddock in Vittencoom Street and then with a Mrs Prosser in Arthur Street. After that I shared a flat with Frank Thomson in Picton Crescent. After Elsa and I were married in January 1955 we moved into a very sub standard one bedroom flat in Stirling Street, South Bunbury. Later we moved into an up market two bedroom flat in Kingia Street, only one street back from the beach. We then moved into a small departmental house, photographed above, in Mouarn Street, Carey Park, which, was on the outskirts of Bunbury.



The town of Bunbury taken from Boulters Heights in the mid 1950s. The population of the town was in the order of 10,000. Note the old red brick post office on the right hand side of the photograph.



BUNBURY 301. PILE JETTY EXTENSION - 1960 - From 1958 to 1960 I was based in Bunbury initially as an assistant engineer and later as Assistant Engineer Bunbury Harbour works. The following photographs show various stages of the construction of the Jetty extension.

Top LMS

Transporting the gunit piles from the pile yard jetty to the construction site.

Top RHS

Pitching the pile.

Middle LMS

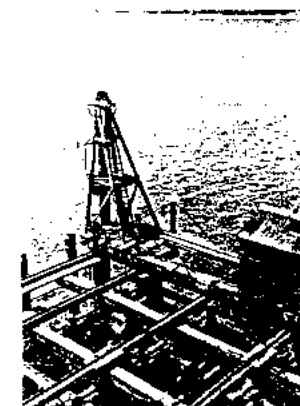
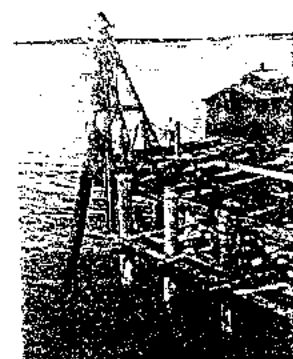
Driving the pile from one of the two outriggers.

Middle RHS

General view of the two pile driving outriggers at the jetty head.

Lower

Views of outrigger. The pile frame travelled on flanged wheels on the outrigger across the jetty, one frame covering 6 pile positions and the other covering 5 positions. The outrigger itself travelled out over rollers supported on the preceding half caps, which allowed for the outrigger to cantilever out to 12 feet, the distance between the piers.



CHAPTER ELEVEN

MERRREDIN 1957 - 1960

Transfer from Bunbury

Promotion through the department was obtained by applying for positions which were advertised in the Government Gazette when vacancies occurred or else when new positions were created. The classification of officers was very simple then. Civil servants were grouped into four divisions; administrative, professional, clerical or general, with the prefix letter A, P, C or G denoting the division. The particular grade of the officer was shown in Roman numerals and the steps within that grade were shown by numbers. Within each grade there were a number of steps, through which officers could rise to a ceiling. Any progression beyond that ceiling was subject to promotion.

I joined the department as, what was then termed a level three engineer on the automatic range. When I reached the top of the level three ceiling I would have had to stay there until a vacancy came up, a new position was created or I was reclassified. Fortunately, after I had been at Bunbury a short time I took over from the resident engineer and my position was reclassified to that of a level two engineer.

Early in 1957, three level one positions and three level two positions were created in the Goldfields Water Supply branch of the Public Works Departmental and advertised in the Government Gazette. I duly applied for one of the level one positions and was successful. The problem, was, however that no one could tell me where I was to be appointed. All I knew was that it could be either Perth, Northam, Merredin or Kalgoorlie. At the same time I was about to proceed on long service leave.

At the end of March 1957, we said goodbye to Bunbury. On the 19th April we set off by road from Perth to Sydney, not knowing where we would be based on my return from leave. As we had occupied a departmental house at Bunbury, we were able to just walk out of it. Our furniture however created a problem as I had to put it in store in Fremantle for an indefinite period.

Appointment to Merredin

On my return from leave I confronted my previous boss, Norm Henry in his office in the old barracks to see if he knew where I was to be based. He didn't know. He suggested we go and see George Hammond, who was the Engineer for the Goldfields Water Supply. He didn't know either. He suggested that I talk to his principal assistant engineer, Reg Keating, who was handling staff movements.

I was taken into Reg Keating's office by George Hammond, who introduced me to Mr Keating as the new man. Reg glared at me and said something along these lines, "Hasn't anybody told you that you are going to Merredin as the district engineer. I wish to make it quite clear that I am not interested in your domestic arrangements and the department does not provide a house at Merredin. You will have to find your own place and when you do I want you to get the phone on. Also you must advise me when you leave the district as I expect you to be on call for seven days a week and twenty four hours a day." He then added "I would like you there right away."

That was my introduction to the Goldfields Water Supply. For the next six months I lived at Duff's Hotel on the corner of Bates and Mitchell streets, Merredin and Elsa, with our baby daughter stayed at her mother's place at Kenwick. By a pure fluke, I had put my name down for a house through the State Housing Commission when we were first engaged. Slowly after four years the request had come to the top of the list and I became eligible to buy a house at Merredin. The house, which was being built all the time I was staying at the hotel was in Caw Street, South Merredin, which was the last street in Merredin off from the Bruce Rock Road.

In the interim period, I used to travel to Perth each weekend to see Elsa and our daughter Yvette, after having always obtained permission from my head office to leave the district.

Caw Street, Merredin

At the end of 1957, our house at 76 Caw Street, Merredin, became available and we were able to set up home once again. This was the first house, which we had owned ourselves. Although it was very basic and on the outskirts of the town with no footpaths and no telephone, it was at least ours. It was also our first step into the very interesting world of real estate.

All the time that I had been living at the Hotel in Merredin and Elsa had been staying with her mother in Kenwick, our furniture had been in store with a removalist in Fremantle. Eventually we had it taken out of store and transported to our home in Merredin. The department had previously paid for the transport of our personal belongings from Bunbury to Fremantle. When I received the final account from the removalists for both the storage and the transport from Fremantle to Merredin, I just initialled the account and sent it to my Perth office for payment. Perth office ignored it, would not pay the account and returned it to me. I was determined not to pay this bill, as I considered that the department was liable and I sent it back to head office. For the next three months or more I forwarded every reminder notice from the removalist to Perth Office and returned every account to Perth Office.

I, then received a notice from the removalist threatening legal action if the account was not paid in 30 days. I sent this notice off to head office, suggesting that I may have to take time off to attend court in Perth. I then got a reaction. I had a ring from the Public Service Commissioner from his ivory tower in Perth advising me that the government would meet me half way. I rejected the offer outright. The next day I received another call from Perth saying that the outstanding account would be paid in full by the government.

The Water Meter

One of the only perks which went with this position was that field employees of the Goldfields Water Supply branch did not have to have meters installed at their service. This was supported in an official way with the excuse that there was a shortage of meters and GWS employees would be the last on the list to have meters installed. We lived in a new housing area, amongst homes that had meters, and I felt that I should at least have one installed, even if there were no inside workings. This arrangement looked good from the street and every house had its gleaming brass Dobbie Dico meter including ours, standing proudly above the newly planted lawns along the inside of the front fences. However, it did not take long for the many pre school age children in our street to work out that our meter was different to the others - ours didn't tick when the hose was turned on.

Merredin District

Prior to my appointment as district engineer at Merredin, there were only two district centres, one at Northam and the other at Kalgoorlie. As a result of the increased work, brought about by the construction of the Comprehensive Water Supply Scheme, it was decided to base a district engineer at Merredin. The department, however, did not extend the accounts section of the water supply to Merredin and the clerical side still came under the managing clerk, Avon Gale, at Northam. The Merredin district covered a distance of about seventy miles along the main conduit from the number four pumping station to a few miles the Merredin side of Southern Cross. It extended northwards to Nungarin and southwards to Kondinin.

There were about one hundred and fifty men employed in the district, who lived in Merredin or in one of the surrounding towns, either in water supply camps or in their own homes.

The work covered the laying of water mains, the building of storage tanks, the preparation of foundations for the installation of pumping plant, the construction of swimming pools and sewerage works and the general overall maintenance and operation of water supplies in the district.

Merredin Water Supply Office

The Merredin office was the smallest government office, in which I have ever worked. It was located on a quarter acre block in Mitchell Street, just around the corner from Duff's Hotel. On the same block was the water supply store, the meter fitters shop, the general workshop, the pipe and valve storage area, the plant store, an ablution block and the general office. The office, which faced the street was tucked into one corner of the block. It consisted of three rooms, with each one being not much larger than a normal size bathroom. In this small area there stood, sat, squatted or leant two clerks, the water supply inspector, a survey hand, two foremen from time to time, members of the visiting public, dignitaries from Perth and the district engineer.

During my time at Merredin, the office accommodation and the water supply depot improved immensely. It did happen, but it did not happen overnight.

The Coolgardie Goldfields Water Supply Scheme

The Coolgardie Goldfields Water Supply Scheme which was instigated in the late 1890s by the late Charles Yelverton O'Connor the Engineer in Chief of the Public Works Department comprised a dam across the Helena River, (Mundaring Weir) and a 351 mile length of 30 inch diameter steel locking bar pipe line between the dam and the Mount Charlotte reservoir at Kalgoorlie. The water was lifted to Kalgoorlie through eight steam driven pumping stations with the first one being located at the weir itself and the second one only a few miles on from the first one. The other stations were located at Cunderdin (No 3), Merredin (No 4), Carrabin between Merredin and Southern Cross (No 5), Ghooli east of Southern Cross (No 6) and No 7 and No 8 further on between Ghooli and Coolgardie.

On the 31st March 1902, pumping trials commenced at the No 1 pumping station. The water reached Northam on the 18th April, Merredin on the 22nd August, Southern Cross on the 30th October and Coolgardie on the 22nd December. On the 24th January 1903, the "river" of water gushed out of the pipe into the Mount Charlotte reservoir at Kalgoorlie. It had taken 10 months to reach Kalgoorlie. This was reduced a short time after to four weeks. Today, with the electrification of the steam pumps, it takes about fourteen days.

Welding on the Main Conduit

Sections of the main pipe line to Kalgoorlie, which passed through the Merredin district were gradually being upgraded either by being replaced with larger diameter pipe or else by duplication. In some cases the cast iron lead joints of the original locking bar pipes were being cut out and the ends of the pipes sleeved and welded. With the introduction of the continuous welded pipe line pipe laying methods had been greatly improved over the last five or more years. The large diameter steel pipes were delivered to the field in thirty feet lengths. These were set on concrete bolsters and welded together in 240 foot lengths, with the centre of the 240 foot length of pipe being well anchored into a solid cast in-situ concrete block. The ends of the pipe were left free temporarily and during this time the length of pipe was free to expand and contract as the air temperature varied. At the mean air temperature several of the 240 foot lengths were then welded together.

The theory behind the continuously welded pipe line was that any stresses created in the line by the expansion or contraction of the steel line could be retained within the line, providing that the pipe was well anchored at periodic intervals along the line in both the vertical and horizontal plane, and that any stresses in the line were made minimal by welding in the line at the mean air temperature. In this area of the State, temperatures could vary between below freezing point and over 110 degrees. Depending on the time of the year the line was being laid, it was often necessary to weld the sections of line at midnight or early in the morning. There was nothing more spectacular than to see this operation take place in the stillness of the night, somewhere out the back of Walgoolan, alongside the deserted Merredin to Southern Cross road.

There would be ten sections of open ended pipe supported on bolsters and anchored by a well cured overhead block at each centre point. At every 240 feet along the line, there would be a welding machine, with its motor idling and rearing to go and alongside the machine, the welder with his gloves, welding handpiece and visor at the ready. Then on a signal from the foreman, with his thermometer in hand, he would flash a torch.

And immediately the darkness would light up with the flashes of ten white arcs spread over a half a mile of pipe line. At the same time, ten engines would roar into life. For several minutes there would be nothing but the sound of motors and the brilliant white flashes of light lighting up the bush and casting long flickering shadows of the stunted mulga trees along the pipe track.

And then as suddenly as it started, there would be total darkness and silence. Another half a mile of pipe had been welded into the main conduit.

Lining Pipes

There were a few local farmland water supplies in the district as at Narembreen and Kondinin, where the below ground steel pipes had corroded badly on the inside. In some cases the pipes were lifted and either relined with bitumen or cement and relaid or in other cases where the pipes were beyond lining, they were replaced with new pipe. One method used for lining the inside of small diameter pipes was done without lifting the pipes.

Once the general line of the underground main was located, the pipe would be uncovered at several points along the line and a short section of pipe removed from each location. The line would then be cleaned under water pressure to remove any flaking material from inside the pipe. After cleaning, a quick setting cement mix would be placed in the pipe followed by a short length plunger, known as a "pig", which fitted fairly snugly inside the pipe, but gave sufficient clearance for the thickness of the cement lining of the pipe. The "pig" would be projected by water pressure through the pipes and if the operation was successful it would emerge at the next break in the pipe, allowing the process to be repeated on the next section of pipe.

Before letting the "pig" go, the ganger would station several of his men along the line of the pipe. When the ganger gave his signal they would all put their ears to the ground. Suddenly the first man along the line would stand up and run to the next spot on from the last man. A short time later number two man would do the same followed by number three man.

Anybody coming on to the site would have wondered what these grown men were doing playing some type of leap frog. Actually it was quite simple. They were simply following the progress of the "pig" through the line, in case it should become stuck somewhere along the line. By doing this they were guaranteeing that they would not have to dig up the whole section of line should the pig become jammed in one of the pipes.

The Comprehensive Water Supply Scheme

This scheme, known fully as the Comprehensive Agricultural Areas Water Supply Scheme, as its name suggests was to supply water to farmlands and towns in the north eastern and eastern wheatbelt areas of the State. It involved the raising of Mundaring dam and Wellington dam to improve existing water storages, together with the upgrading of pumping stations and the main pipe line on the Goldfields scheme. It also included the laying of new feeder and distribution mains, storage tanks and ancillary pumping stations to service new farm areas and the augmentation and upgrading of some the existing local farmland supplies such as at Narembeen, Kondinin and the Barbalin Waddouring area.

The Opening Ceremony

Politicians love opening ceremonies. It is the time when they stand up on a temporary bunting flag draped dais and cut ribbons or pull open curtains to expose plaques, commemorating the fact that they were here on this particular auspicious occasion. It is also the time when they heap mounds of praise on their parliamentary colleagues and any one else not directly involved in the planning, design or construction of the project being opened.

Over my career I have been witness to many opening ceremonies and they all have the same overtures. There is, however, a lighter side to all this pomp and ceremony, which often is not seen by the guests and general public participating in the opening. An astute Minister will always check under the drape covering the opening plaque to ensure that nothing else has crept in to obscure or change the wording. I remember at one opening, some staunch labor supporter had placed a large "Vote Labour 1" card over the bronze plate commemorating the achievement of a liberal government in providing this amenity. Fortunately, it was removed just in time.

There was another case, where the Minister was opening a new quarry, which, had of course been operating for several months. On the flag draped dais was a flag draped table. Behind the table was the Minister and his party. On the table, in pride of place was a freshly cleaned and polished magnum type plunger, the tee shaped handle standing proudly out of the base, and ready to be pushed home. According to the glossy brochure detailing the opening ceremony this would detonate a primary charge, which in turn would set off the main charge and bring down the first fall of rock from the quarry face.

From the plunger, two wires snaked across the table and then disappeared into the table drapes. A short distance from the dais a lone powder monkey was poised over a car battery, with two wires in his hand. Some distance away, the wires lead to the quarry face and to a small number of AN 60 gelignite sticks, hidden amongst that "first" fall of rock. At the appropriate time when the Minister said, "I now declare this quarry opened", and pushed the plunger home, the powder monkey touched the two terminals on the battery with the loose wires in his hand. The Minister had performed his duty and brought down the "first" rock in the now opened quarry.

An opening ceremony was planned to commemorate the completion of the pipe line from Kellerberrin on the Goldfields line to the Waddouring reservoir between Trayning and Bencubbin. This project was a part of the Comprehensive Water Supply Scheme to augment one of the existing district supplies. The main part of the function was to be the turning on of a valve at the ceremony which would allow Mundaring water to gush forth into the reservoir, reminiscence of Sir John Forrest performing a similar task at Mount Charlotte reservoir at Kalgoorlie some fifty five years earlier.

Unfortunately, it appeared that as the opening day got closer that the pipe line and its appurtenances would not be completed in sufficient time for the reservoir to receive Mundaring Dam water. It was decided at the last moment to place a 1000 gallon tank on a high part of the rock catchment, not far from the incoming pipeline but out of sight from where the opening ceremony was to be carried out. Prior to the opening day the tank was filled with water pumped from the existing reservoir.

On the day of the opening, the usual bunting and flag draped dais had been set up at the reservoir, only a few paces from the flag draped gleaming red and yellow Johns gate valve, defining the end of the new pipe line, and through which the "Mundaring" water would gush once the Hon Minister turned on the valve. The ceremony went off without a hitch and when the Minister turned on the valve, to open the scheme, a full pipe of water flowed in to the weir. One of the employees had the presence of mind to quickly turn off the valve at the first opportunity. The tank could have drained very quickly, which would not have looked very good had the flow from the pipe suddenly diminished to a trickle only after a few minutes after the scheme had been opened.

Narrembeen Tank

The circular reinforced concrete storage tanks constructed at that time consisted of a circular concrete footing which supported the wall of tank and the outside edge of the concrete floor. To allow for peripheral expansion and contraction of the wall of the tank, the base of the wall and the top of the footing were not bonded and the wall was free to move on the concrete footing.

Apart from a flexible membrane being incorporated between the tank floor and the walls, there was also a V left between the edge of the floor and the lower inside face of the wall, which was filled with a non water soluble bitumastic compound to eliminate any possible leakage of water from the tank at the expansion joint. Whenever the tanks were emptied and cleaned for normal maintenance, this joint was also checked and re-plugged if required. In some cases intermittent leaks occurred, which could often be stopped by caulking the joint from the top of the tank using a sixteen feet length pole to reach the bottom of the tank. My water supply inspector was Ron Gawned, who was one of the most conscientious and efficient workers I have ever struck. He worked endless hours and spent a considerable amount of time inspecting all the works in the district to ensure that the work was being carried out in a true tradesman like manner.

He was quite concerned about the two million gallon capacity circular concrete tank at Narrembeen, which was quite isolated and which had developed a leak at its base. Every time he used to pass the tank, which was sometimes late in the afternoon, he would climb up the ladder on the outside of the tank, grab the pole used for caulking the joint and then whilst sitting on the ten inch wide wall bounce his way slowly around the tank, caulking as he went.

When he mentioned this operation to me one day, I told him I was quite concerned about his safety. I asked him what would he do if he fell into the tank. There could be ten feet of water in the tank with the water level six feet down from the top of the wall. Also the wall was vertical and there was no ladder inside the tank. There would be no one coming to the tank late in the day and nobody would miss him, even his wife, who was use to him arriving home at all hours of the day. After that we put ladders inside the tanks. In later years all these open tanks were roofed for health reasons.

Farm Water Supplies

During the early stages of supplying water to the farmlands off the Merredin/ Narrembeen main, the department received numerous complaints from local farmers on poor water pressure, which I had to investigate. Farmers were provided with a service off the main at the nearest part of their property to the main. Like most farms the farmhouse could be located on higher ground, sometimes up to a mile or more away from the service.

The farmer would be responsible for laying pipes within his property and he would often use three quarter inch or half inch diameter galvanized pipe for this purpose. The pipe friction on this size pipe over a mile or so could be so great, that any head of water at the meter could be completely eliminated by the time the water reached the farmhouse, resulting in just a mere trickle coming from the kitchen tap. I found that the best way to convince the consumer that the fault was in his internal pipes and not in the department's mains was by illustrating this with a length of common garden hose and a bucket. The bucket would first be filled straight from the garden tap and the time taken to fill it recorded. A length of hose would then be connected to the tap and the time once again taken to fill the bucket. This showed very clearly that it often took over twice as long to fill the bucket through the hose as straight from the tap. I would then add, "substitute the hose with the length of your internal pipe system and you have the answer."

Other Merredin Projects

One of the last projects I was involved in before leaving Merredin was the construction of the foundations and pipe work for the new No 4 pumping station at Merredin. One of the requirements of the Comprehensive Water Supply Scheme was the upgrading of the existing steam driven pumping stations on the Goldfields Main by electrification. A new sewerage scheme was commenced at Merredin during my last year. I was also involved in the construction of the Bruce Rock swimming pool and the supervision of a swimming pool being built by and for Western Mining at Bullfinch.

The Merredin Water Supply Depot

Over the three years I was based at Merredin I was able to establish a very good depot on land fronting Great Eastern Highway at the eastern end of the town. All the structural members for the buildings, pipe and material racks and fencing in the new depot were from recycled discarded water pipes. I think at one stage that I became so keen in carrying out this work that I became too willing to condemn any underground main which could be suitable for building purposes.

I was very proud of the depot, the perimeter of which was lined with planted native trees. There was even a small strip of lawn leading from the entrance gates up to the main workshop. Where I couldn't get "recycled" materials I would purchase them through one of the many authorities which operated through the Merredin District. This was of course not strictly correct procedure, but at the same time I would reason, that the facilities which were being provided at the depot were, in the long term, for the benefit of those authorities. I remember one day, when I had a rare visit from Perth of my chief Reg Keating. I was showing him around the partly completed depot, when he queried the financing of the new store building which was in course of erection. When I explained to him how I had used some of the funds allocated to the Narrembeen main he proceeded to tear strips off me for using unauthorized funds for building the depot. The subject was then dropped and we retired to one of the two Merredin hotels. Before he left to return to Perth he got me on the side and said, "I think you should put up a separate store building for any materials that have already been booked out from the main store and have been returned partly used or unused. You can then use that material again, which has been charged out anyway, without incurring any further cost." I took notice of him and the next day I arranged for the store building now under construction to be extended two bays to provide for this additional space.

Goodbye to Merredin

About the middle of 1960 I had a telephone message from the Under Secretary for Works, Jim McConnell, saying that he would like to see me in his office in Perth the next day. When I fronted up to him the next day he announced that I was going to be transferred to Derby. I was stunned. I didn't even know how Derby fitted in the order of towns up north with Onslow, Broome, Port Hedland and Roebourne. I must confess that I, like many other southern bred and southern based engineers, always saw the public works department finishing at the other end of Jewell Street. I had never given a thought to any of the towns north of Geraldton. I had at least been to Geraldton, which to me and many others was the North. Jim also suggested that I should bring my wife down to Perth on my next visit so that he could explain the appointment to both of us.

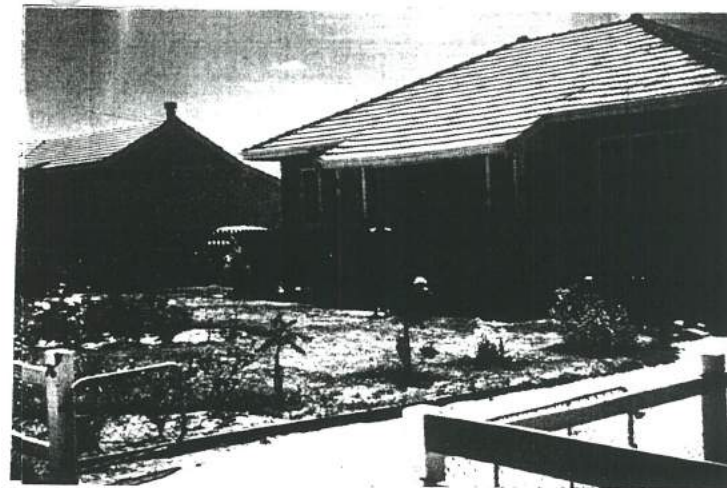
After I left his office, I rang the Merredin office to speak to my assistant engineer, Peter Shaw, and asked him to pass the message onto Elsa. We still were not on the phone. That afternoon, I drove back to Merredin.

I was not a bit enthusiastic about being transferred to Derby, and Elsa, who had at least seen Derby when she was passing through it several years before, was even less enthusiastic. We now had two young children with the younger one, Gregory, only eighteen months old. We had bought our own house, made a few friends and were now being accepted by the town. I had joined Rotary, I played golf and I enjoyed being a part of the historic Goldfields Water Supply Team.

The next week, Elsa and I faced up to the Under Secretary in his office in the old barracks building, all of which now remains is the arch. He told us what a wonderful place Derby was and how we would both enjoy it. He said the weather was wonderful, compared to the cold wet winters we were experiencing in Perth at present. He extolled on the interesting projects which were now taking place up North. He elaborated on the Fitzroy irrigation scheme at Camballin, the great potential of the Ord River, the upgrading of the cattle industry in the Kimberley and the exciting mineral developments now about to take place in the Pilbara region. He, also told me that after considering many other engineers, I had been finally selected as the most suitable for the position. I ventured to say, that the only reason for selecting me was because they started their search from the beginning of the alphabet.

When we asked what option I had, I was told politely by the Under Secretary that I had none - Go or get out.

With an option like this, what could I do? I gave serious thought to resigning on the spot. At that time I possibly had a good chance of joining a particular local authority as its town engineer, although local government with all its ramifications did not appeal to me greatly. In the end we returned to Merredin, sold our home in Caw Street, arranged to forward our furniture to Derby, packed up the rest of our belongings in our car and headed back to Perth. A week or so later we were on our way to Derby.



The first house we bought was at 76 Caw Street, South Merredin. We lived in it for two and a half years. We had to hastily sell it in the middle of 1960 when I was suddenly transferred to Derby.



Bates Street, Merredin, looking south towards the railway station. The building on the far left was the local picture theatre and the two storied building half way down the street on the left was Duff's Hotel, now demolished.

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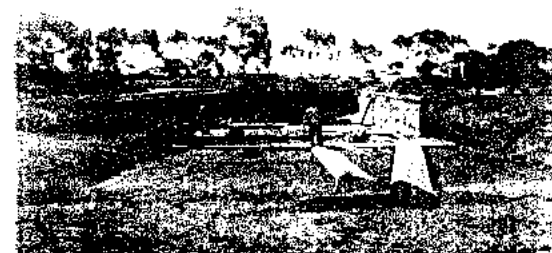
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Bruce Rock Dam, which consists of a concrete wall built over a deep gully in the rock outcrop. Prior to being connected to the GWS scheme, this was the only supply for the town of Bruce Rock. This type of construction was used extensively for water storage on rock catchments in country areas.



West Narrebean Tank.



Bruce Rock Swimming Pool under construction - 1957
The photograph at the top shows the first section of the wall after stripping. The centre photograph shows the completed wall and the lower end, the floor being poured and screeded.

CHAPTER TWELVE

DERBY 1960 - 1965

The Climatic Shock

The four of us boarded MMAs F27 Swan at Perth airport early one cold wet evening in July 1960. At about 4 o'clock the next morning we arrived at the Derby airport. On leaving the pleasant airconditioning of the Fokker Friendship I suddenly became aware of the taste of dust and the smell of the hot steamy morning air, two features of Derby which we came to know very well. We were met at the airport by Reg Crossley, the department's district officer at Derby. Reg and his wife Peg lived next door to the departmental house which was to be our home for the next five years.

Within a matter of a few days we had been whisked away from temperatures of below freezing point to temperatures of over the 100 degrees mark. I was being transferred to Derby as the Resident Engineer for the North West, a bit of a misnomer in some ways as it included the whole of the State north of the 26 degree parallel, which took in the coastal towns and hinterland from Carnarvon to Wyndham. It included the construction, maintenance and operation of water supplies and stock routes from Carnarvon to Wyndham which included the towns of Carnarvon, Onslow, Roebourne, Point Samson, Port Hedland, Wittenoom, Marble Bar, Nullagine, Broome, Derby, Fitzroy Crossing, Halls Creek and Wyndham. It covered maintenance of the ports at Carnarvon, Onslow, Point Samson, Port Hedland, Broome, Derby and Wyndham and initially some of the government buildings north of the 26th Parallel. It also covered the wet season maintenance of the West Kimberley irrigation areas and the liaison with the river gauging stations in the Kimberley area.

The transfer like so many moves in the department was of some urgency. This seemed to be the way the department operated. To this day, I still don't know why my move to Derby was done in so much haste. I know that there have been cases where officers have been moved quickly to get them away from a place. In my case I am sure that this wasn't the reason for my move from Merredin.

And this was Derby, where I was to spend the last five years of my twenty years in the field.

Derby to Wyndham

We had hardly settled in at Derby, when I received my first visitor from the south. It was my chief Keith Steers. After a day or so at Derby we set off by road to inspect all the departmental works in the Kimberley area. This included water supplies, schools, hospitals, police stations, court houses, stock route facilities, weighbridges and other government accommodation between Derby and Wyndham. The purpose of this trip was, of course to introduce me to a part of the territory for which I would become responsible. We were away for two weeks and Elsa was left to cope with an outdated kerosene refrigerator, dust, sand flies and two small children.

This trip was the forerunner of many I was to make between Derby and Wyndham. I remember that on one of the first trips I did on my own, I decided that after leaving Halls Creek I would go to Wyndham along the Duncan Highway, sections of which crossed into the Northern Territory. This road was generally no more than a two wheel track and often indistinguishable from a station track. A part of the road passed near a watering point on Nicholson Station, about 120 miles east of Halls Creek. Prior to my arrival at the mill, there had been a mob of cattle in at the watering trough and the bare ground around the tank and the trough had been severely trampled, including the highway itself. I also must have been the first vehicle along since the cattle had trampled the area, because there were no wheel tracks to define where the road had been.

What one has to do in a case like this is to drive around the trampled area until the remnants of a two wheel track leading away from the area show up. There is usually a good chance that the most well used track could be the main road.

A Ministerial Visit

I had barely been home a day after seeing my chief off at the Derby airport when I had an urgent call from Perth - (I can not recall ever receiving a call from Perth office that wasn't urgent). It was the Under Secretary on the phone advising that he and the Minister for Works, Mr G P Wild, would be flying to Derby the day after next and would I book them into the Club Hotel at Derby for two nights.

He said that they also wanted me to take them out to Camballin to inspect the progress on the irrigation works at Uralla Creek. I had never been to Camballin. I wasn't quite sure where it was. I knew that there was a public works department gang out there under the control of Resident Engineer Bill Sheridan and that they were building a dam to hold back waters for the irrigation of river flats along a part of the Fitzroy River. I decided there and then that I had better take a run out there. There would be nothing worse than getting lost with the Under Secretary and the Minister for Works on board.

The irrigation potential of the Fitzroy River flats was first recognized by Mr Peter Farley of Associated Rural Industries Ltd. when he visited the area in 1950 accompanied by the Hon. H. Johnson who at that time was the Minister for the Interior. Some initial experiments were carried out by Mr Kim Durack, who selected an area adjoining Uralla Creek, an ana branch of the Fitzroy River, about 8 miles from Liveringa Station, where he irrigated 80 acres of rice using water pumped from a pool in the creek. Eventually a company known as Northern Developments Pty Ltd and financed by Associated Rural Industries Ltd was formed to control the project. Results of the experiment were sufficiently positive for the Company to put up a proposal for an agreement whereby the Government would make land available to the Company and provide works for the supply and control of irrigation water. In due course a satisfactory agreement was negotiated and ratified by an Act of Parliament in 1957.

Under the Agreement, the Government was required to resume 20,000 acres from the Liveringa Station and make it available to Northern Developments Pty. Ltd. They were also required to provide access roads and associated creek crossings, together with housing and water supply for the gazetted township of Camballin. The works associated with irrigation included a barrage over the Fitzroy River to raise the water level during river flow and convey it 17 miles down Uralla Creek to an earth dam which gave command over the Company's irrigation area.

The irrigation works were being carried out in the dry season. Prior to the coming of the wet season, the construction team would return to Perth and I would be required to maintain the completed works or the partly completed works. The construction team would then return and continue with the work immediately after the river flow had subsided.

The next day I drove out to Camballin which was about eighty miles east of Derby and had a good look around the area. On the following day I met the party from Perth and after booking them into the hotel, drove straight out to Camballin.

The Seventeen Mile Dam Flood

The seventeen mile dam on Uralla Creek was basically a long levee bank which controlled the supply of water to the irrigated areas and also provided for flood control. A concrete spillway was located in the middle of the earth dam in the creek bed, which also incorporated steel gates, which could be raised or lowered to regulate the flow of water from the dam. The dam had been designed for the water never to flow over the earth bank, and a certain freeboard was required between top water level and the top of the earth bank.

During one of my first "wets" in Derby I received an urgent message from the maintenance team at the dam to say that a recent inspection by boat had shown that even with the gates fully opened, the water level in the 17 mile dam was still rising. I hastily drove out to Camballin to assess the position. Fortunately there was a helicopter on standby at Camballin and I was able to fly quite low over the area and land on the levee bank near the left hand side of the spillway. The Fitzroy River was in full flood and the river flats were inundated. Most of the fences in the irrigation areas were well under water. What was worse, the earth dam was starting to be eroded by the flood waters rushing with some velocity over the spillway only a few yards to the right. My main concern was that if the bank broke through at the spillway abutment, the flood of water would take the whole concrete spillway structure with it.

What had to be done, and done quickly was to divert the flow of water away from that section of the the earth bank. The only access to the dam was by helicopter and for the rest of that day until late into the evening, the helicopter ferried men, star pickets, wire netting, sand bags, wire and rope between the depot at Camballin and the dam. I proposed to build a deflector groyne out of sand bags out into the raging current. This was accomplished by several men being tied together with a length of rope which was securely anchored to a still solid part of the earth bank.

A line of star pickets was then driven out from the bank to which a roll of wire netting was fastened. In the meantime sand bags were being filled using material taken from the downstream side of the dam. The filled bags were then manhandled into position behind the wire netting. As the work progressed, the immediate danger to the bank decreased. The flood level still remained high but fortunately the bank was not over topped. The hastily built temporary groyne did its job and the concrete spillway was not damaged. And it was all due to the efforts of the dedicated maintenance gang at Camballin.

River Gaugings

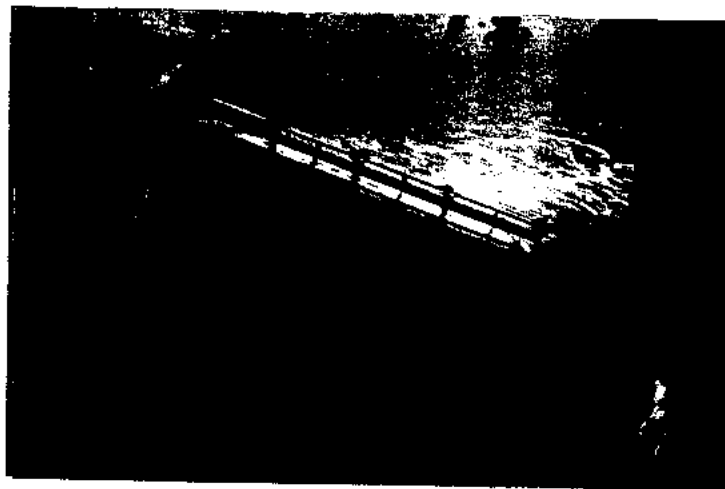
Helicopters were used frequently in the Kimberley, more so during the wet season, when road access was out and there were no landing strips for conventional fixed wing aircraft to land. River gauging stations had been set up on both the Ord and Fitzroy Rivers and were often manned in the wet season by university students over their summer vacation. The job was very lonely and monotonous.

There were always two students working together or else one working with a permanent employee of the department. Their duties involved the setting up and regular readings of river height gauge boards, across a pre surveyed cross section of the stream. Their accommodation consisted of a rough timber hut, fully equipped with rations prior to the onset of the wet and located above known river level. Access to the outside world, in case of emergency was by helicopter, which would have to be flown into the site. Radio was provided for contact to the outside world which included the Royal Flying Doctor Service frequency at Derby and Wyndham and the Public Works frequency at Derby. One of my duties at Derby was to operate the department's transmitter VL6AV, which was located in my office in Elder Street. Every morning at a fixed time I would call up all the departmental out stations to receive or to relay any messages and to obtain the latest river level, which in turn would be relayed by phone to my Perth office. There was one gauging station at Dimond Gorge in the upper reaches of the Fitzroy river system which was accessible by plane. During a previous dry season a rough track had been pushed into the ranges and a short landing strip had been formed over a flat saddle between two rugged peaks.

The first time I landed on this strip was with Dick Robertson of Aerial Enterprises at Derby who at that time was flying a timber framed cloth covered single engine Piper Cub. The plane, although lacking quite a few modern refinements was very manoeuvrable and most suitable for landing and taking off on short strips. We landed OK. Dick had been a Spitfire pilot in the war and was very adept at coming down in an almost vertical dive and then flattening out at the last minute to do a three point landing on the strip. Before he landed he had taken a low run over the strip to pinpoint the worst sections of regrowth he would need to miss, once his wheels were on the ground. Before taking off we walked along the strip to bash down any of the suckers along the line of our take off. The terrain on which the strip was located was not level and rose in the middle. This meant that one could not see the far end of the strip when taking off. This was slightly unnerving the first time as it gave the impression that the plane was nearly at the end of the strip before it had left the ground. Once over the rise it was all down hill.

There was one occasion I had to fly to the Gorge, when Dick was unavailable to pilot the Piper and he had a relief pilot to carry out his duties. We set off from Derby airport in a heavy downpour of rain, heading due east over the Leopold Ranges. After a short time the pilot asked me if I knew the way to the strip at the Gorge. I must confess that although I knew the location from the normal aerial photographs and maps, I had never paid any particular attention to the various landmarks leading into the Gorge. From the air a large amount of the Kimberley is undistinguishable from other areas. The mountains are also cut by numbers of gorges and fault lines and many such landmarks are similar in formation.

In cases such as this roads, railways or rivers are the best means of locating ones precise position. There were of course no roads or railways in this area; only hundreds of running streams. Also with the steady rain which had continued from the time we left Derby visibility was very poor. When we reached the general area of the gorge we both strained our eyes to see if we could pick out a familiar landmark. It soon became a case of quickly finding the air strip or else returning to Derby. We did not want to run out of fuel in an inhospitable area such as this. Then suddenly the strip came into view only a few hundred feet below us and I was able to complete my mission and return to Derby.



The Seventeen Mile Dam at Camballin in flood. Taken from the helicopter looking downstream with all the flood gates fully opened. Note the downstream water level is almost the same as upstream. The section of levee bank being threatened is on the left hand side.



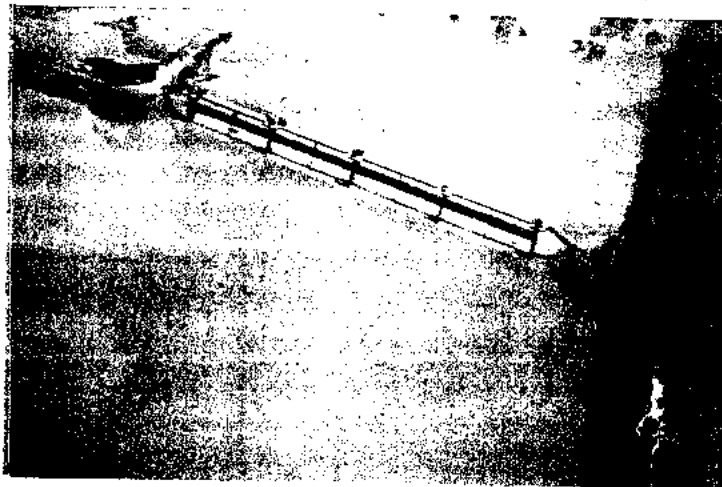
Remedial measures being taken to prevent the loss of levee bank near the spillway of the Seventeen Dam on Uralla Creek, Camballin using star pickets, wire netting and sand bags.

The Town of Derby

The town of Derby was located on a low lying featureless spit of land which led out over muddy tidal flats to the brown waters of King Sound. The reason for its location on this particular spit of land was that it was the closest point to the deeper water of the Sound. It was unlike the other two Kimberley ports. It did not have a towering 1000 feet Bastion as a backdrop to the town as did Wyndham. It did not have the long white sandy beaches and green water as did Broome. It was unique. As Elsa would reply, when asked the leading question on, how did she find Derby, "there's no place like it!" And that was quite true - there was no place like it. We lived on the corner of Loch Street and Mensman Street. Loch Street was then the main street of the town and led via the goods yards at the end of the street to the one and a quarter mile length causeway over the mud flats to the jetty.

The total population of the town was about 600. This included full bloods, half castes, asiatics and whites. The town, apart from being the port for the West Kimberley was also the commercial centre and administrative centre for the West Kimberley. Nearly every arm of government, State and Federal was represented in the town. Broome, on the otherhand, was isolated from the Kimberley due to being cut off by the Fitzroy River for four to five months every year. Only the Kimberley resident magistrate and the chief jailer were based at Broome.

The main commercial centre was centred around the port end of Loch and Clarendon Street. About one and half miles along the only road out of town was the Goldsborough Mort store, run by Ken Wood with Len McAleer's service station opposite. The other general store was Kimberley Traders, run by Charles Stanwell, which was at the opposite end of the town to Goldsborough Mort and was on the corner of Loch Street and Elder Street. Next to Kimberley Traders was Bill Aylings store and milkbar, which housed the town's only juke box. This was where all the town's teenagers would congregate in the evenings and weekends to listen to Chubby Checker beating out the latest twist. The next business, which was set up in the front of a house, just off the street was a dress shop run by Kath Reid. Adjacent to her house was an old weather board and iron building which housed the offices of the West Kimberley Road Board on one side and the West Kimberley Road Board hall at the front.



The Seventeen Mile Dam at Camballin in flood. Taken from the helicopter looking downstream with all the flood gates fully opened. Note the downstream water level is almost the same as upstream. The section of levee bank being threatened is on the left hand side.



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Located in the same area was the town freezer. This type of building was common to all North West and Kimberley ports. It was supplied by the government and operated and maintained by the North West Branch as an amenity for the local people. It was used as a goods in transit store for perishable foodstuffs being unloaded at Derby. There was practically no private cold storage in the town. next to the hall and on the corner of Loch and Johnston Street was an old two storied corrugated galvanized iron boarding house.

Further up Loch Street and on the opposite side were the open air picture gardens, a butcher shop, an agency run by Bob Rowell and a second agency and fuel depot run by Bob Swaine, who was the Chairman of the West Kimberley Road Board. When I first met Bob Swaine, who was a confirmed bachelor, I introduced Elsa to him. Bob, who never wore a shirt, unless he was presiding at a Board meeting, looked Elsa up and down and said, "Why did you bring her up here? This is no place for a woman. I bet she won't last six months."

Between our house, approximately half a mile further up Loch Street from Bob Swaine's business were MacRobertson Miller Airlines office, the National and ANAZ banks, the Post office and the Roman Catholic church. Further along again from our house and opposite were the Police Station and Court House. The only hotel, the Club Hotel was in Clarendon Street, the next street to Loch Street and was located at the port end of the town. The licensee and owner of hotel, which was undergoing extensive renovations, when we arrived in Derby, was Arthur Nichols. I was impressed by Arthur. Not only did he own the hotel, but he also owned a laundry service which specialized in laundering hotel linen. He also owned a carrier business which was mainly involved in transporting beer from the jetty to the hotel and a small freezer for storing beer once it had been delivered by the previous company. On top of all this he also ran an employment agency, devoted mainly to the engagement of staff associated with the food and beverage industry. He also operated an air charter service, mainly for flying hotel staff from Perth to Derby. Arthur told me that the only business which was paying was the hotel business. The other five were complete losses.

Other businesses in Clarendon Street were the Golden Shower Bakery, run by Ron Abchee and a small shop run by Mrs Huddleston on the opposite side. The local power station, which was owned and operated by Lou Kent was behind the hotel. In 1960 a unit of power was one shilling and sixpence.



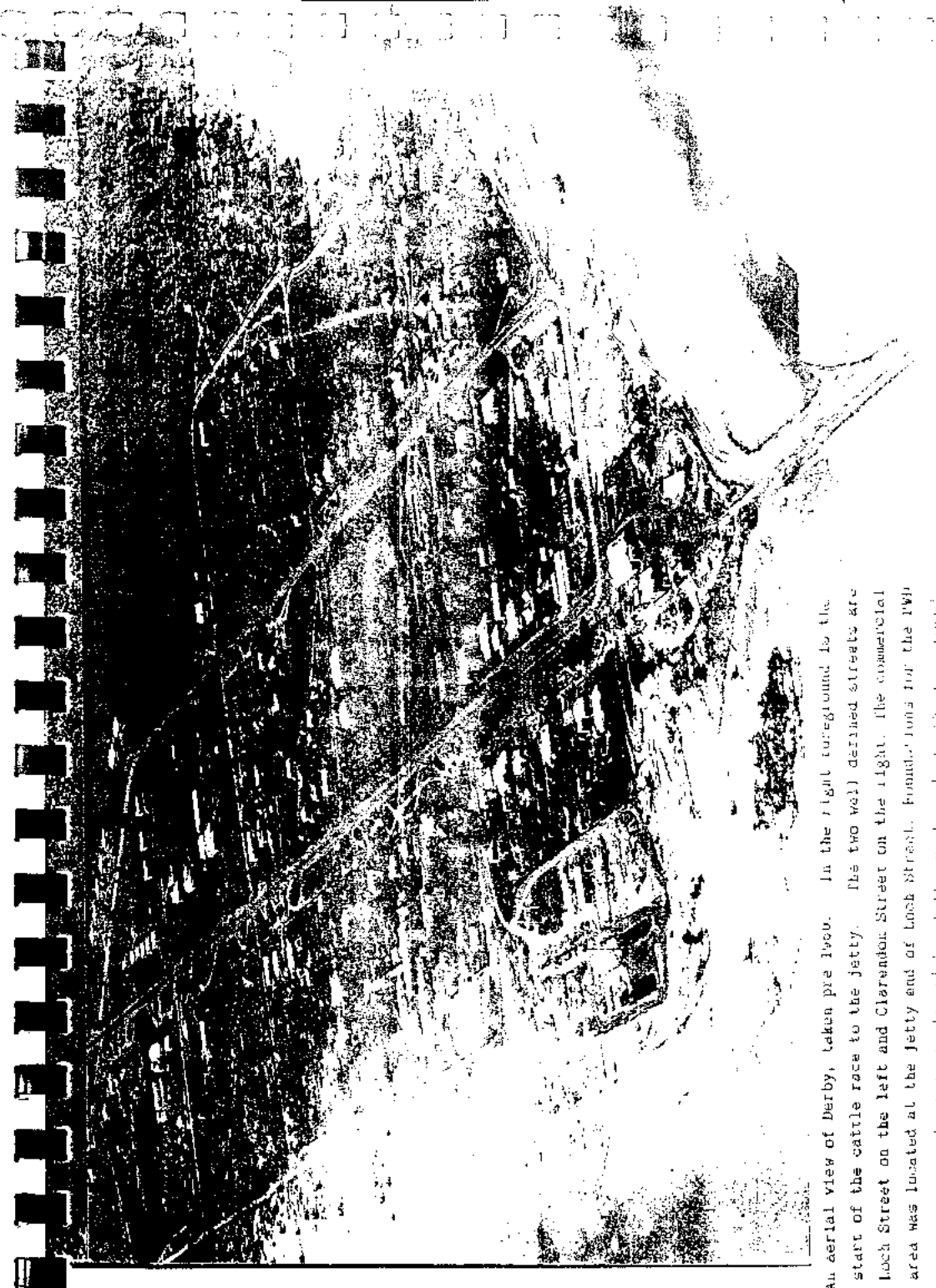
An aerial view of Derby, taken pre 1960. In the right foreground is the start of the cattle race to the jetty. The two well defined streets are Loch Street on the left and Clarendon Street on the right. The commercial area was located at the jetty end of Loch Street. Foundations for the PWD offices were under way, to the right of the goodsyard, in the foreground.

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An aerial view of Derby, taken pre 1960. In the right foreground is the start of the cattle race to the jetty. The two well defined streets are Loch Street on the left and Clarendon Street on the right. The commercial area was located at the Jetty end of Loch Street. Foundations for the 1960

The District Medical Officer

The District Medical Officer for the Kimberley, Lawson Holman was based at Derby and lived in Hensman Street opposite our place. He was a very versatile medico. Apart from painting and fencing, (the type where one uses a sabre or foil), he was an excellent cook and now and then he would organize dinner parties to raise money for charity. His dinner parties were held at his residence and he not only did all the cooking but also waited on the table. One of his other interests was a cattle station, Oobagooma, which was sixty miles north of Derby. As District Medical Officer he was often required to fly to various parts of the Kimberley to carry out autopsies. In the hot humid climate of the north, and with very little refrigeration bodies did not keep very well. In most cases, burials were carried out as quickly as possible.

The Body in the Plane

He told me of one incident, when he was required to bring a very badly decomposed body back to Derby from Wyndham. It was suspected that the person had been murdered a few weeks before and an autopsy would have to be carried out at Derby to determine the cause of death. Dr Holman chartered a small plane from Derby and flew to Wyndham, where he arranged for the body to be placed in a sealed container, which could be fitted in the cabin by removing the seat next to the pilot and the one immediately behind. To allow for variations in the cabin air pressure, as the aircraft was not pressurized, a length of small diameter rubber hose was run from the sealed coffin to the outside air. Between the two ends of the hose and inside in the cabin was a valve which was to be kept closed until the plane had taken off. The theory behind this set up was to ensure that the air pressure inside the coffin remained the same as the cabin pressure. In due course the Cessna taxied down the runway, with the lower part of the box resting alongside the pilot and the upper part resting alongside Lawson Holman, who was sitting immediately behind the pilot. Lawson was able to balance the air pressure inside the coffin with the outside air, using the hand operated valve beside him. The plane took off, gained altitude and was on its way back to Derby when it happened

The section of hose at the coffin end broke away from the sealed container, releasing all the pent up air. And with it came the most nauseating stench of decaying flesh, which soon permeated the whole cabin. As Lawson said to me, "It was unpleasant but it wasn't new to me. I could put up with it. The pilot, however was not use to it, and I could see at any moment he was going heave his heart up while still trying to fly the plane. There was no where we could land. I couldn't even get to the controls, if I had to, what with a big spewing box taking up the space where one seat had been and the pilot partly slumped over in his seat." He said he managed eventually to get the hose back on to its coupling on the coffin and the smell started to disperse. Both the pilot and he were very relieved when they arrived back on the tarmac at Derby.

Burials at Wyndham

Burials at Wyndham were not easy. The ground consisted of a matrix of clay and small boulders, which required constant pick and shovel hand excavation. A grave took some time to dig. As a result of this there were always a few on hand ready to receive the latest coffin. As I mentioned before, it was often desirable if not essential to get rid of bodies as soon as possible. During the wet season the empty graves often filled up with water, which created another problem. According to Alan Donovan, who was the District Officer for the Public Works Department at Wyndham, he had attended many funerals at Wyndham, where the only way they could get the floating coffin to sink was to load it with large rocks, of which there were an abundance in the vicinity of the cemetery.

The Operating Table

I had only been in Derby a month or so, when I had an urgent call, one Sunday, from the hospital, advising me that the operating table wasn't working and could I have a look at it to see what was wrong. I mused on this. If I was sick on a Sunday or a Public Holiday in Derby, I would have little chance of seeing a doctor, and yet I was expected to attend to their "ills" on my day off. Anyway I faced up at the hospital and had a look at the table which had pride of place in the middle of the operating theatre.

I had never seen an operating table before. Apparently the problem was that the hydraulic pump which lifted or lowered the table, similar to that on a car hoist was not working. While the matron and a young doctor hovered over me, I crawled under the table, trying to look as though fixing operating tables was just second nature to me. My knowledge of mechanics was very limited. However I tightened up a few couplings and unscrewed and screwed up a few valves. To this day I am not quite sure what I actually did, but for some reason what I did was right because the hydraulic system came good. I was thanked immensely by the matron. With my tongue in my cheek, I said that it was no problem, and to let me know if it played up again. It never did, which was just as well.

Going Troppo

The term "going troppo" was often used to refer to someone who was acting strangely. It was more noticeable in the wet season than in the dry season. Dr Holman told me that he felt it was due to the loss of magnesium chloride from the body, brought about by excessive perspiration. He said that sodium and potassium salts were replaced more rapidly in the body than the magnesium salts. A shortage of magnesium in the body effected that part of the brain, which he considered acted like a switchboard in relaying messages to various parts of the body. A loss of magnesium tended to short circuit the switchboard resulting in the brain sending out garbled messages.

One hot muggy Saturday morning in January, I was standing outside the Public Works Department office in Wyndham, when I heard a terrific roar coming from the far end of the town. In a matter of seconds a blue dust covered utility came spinning around the corner on two wheels, narrowly missed a pole near which I was standing and then veered across the road, hitting an embankment and becoming air-borne. The driver was projected from the vehicle with some velocity and was splattered over the road only a few chains from the office. The utility rolled over several times in a cloud of dust and came to rest out on the tidal flats just off the causeway to the Jetty. I learnt afterwards that the driver of the utility, who was killed outright, was from the Main Roads Department camp, a few miles out of Wyndham.

The previous day he had told the other men in the camp, that tomorrow he was going to break the world land speed record driving between the camp and the Wyndham Jetty. Nobody took any notice of him. He was serious. There was a complete breakdown of logic. It was fortunate that no one else was killed in the attempt, as even the main street of Wyndham, on a Saturday morning was not devoid of people. This was the only tragedy of this type I had witnessed. I understood that suicides and murders were much higher in the northern part of the State than in the southern part, and more so during the wet season.

Three Murders in One Month

Our month of colourful introductions to Derby included three murders. A judge was flown into the town from Perth for the trials. The first murder was the result of a row between a full blood native and his full blood wife. He threw a spear at her and missed and speared some innocent bystander. He got off because he hadn't meant to kill the bystander. The second murder was committed by a full blood lubra living with a white man. There was a row and she stuck a knife into him. She appeared before an all male jury, was sentenced and jailed. The third murder took place at the Public Works construction camp at Camballin.

The victim, after an argument in the camp, dared one of the men in the camp to shoot him. He did and killed him. The murderer was duly sentenced and jailed.

The High Cost of Living

There were many things about Derby, which made it different to the southern area of the state. Apart from the climate, where the coldest day in Derby could equate to one of the hottest days in Perth, it was a very expensive place in which to live. Admittedly the accommodation for government employees was subsidized and there was a district allowance, to cover areas between the 26th parallel and Wyndham, which was suppose to take into account living costs in the north. There was also a Zone allowance which gave a taxation deduction if one had resided for more than six months in any one financial year in the north.

With all these so called concessions the cost of living in Derby was still far more than in the south of the State. Freight alone was a very large proportion of the cost. The air freight on fruit and vegetables was 2/6 a pound. This was partly subsidized but only over the wet season. Many residents use to have their groceries and non perishable goods sent up by State Ship. We had a standing order with one of the chain stores in Perth. After we had been in Derby a couple of years, a local group of the Civil Service Association was formed, of which I was elected president. One of the first aims of the committee was to push for an increase in the district allowance. The committee was fortunate that Elsa, who was a qualified Home Economist, was able to assist the committee in providing very precise information which proved that the cost of living was much higher in the north than in the south. Apart from store dockets from both Perth and Derby showing the comparative costs of goods of a similar type and brand, Elsa was able to provide supporting evidence on the nutrition value of selected foods. Elsa had arranged with the Home Economics department in Perth for the students to carry out a study, comparing both food costs and food values for a family of four for Derby and for Perth.

This information, which was well documented was submitted to the Public Service Commissioner, Mr Reg Bond, when he paid a visit to Derby during 1963. As a result of our submission, the District Allowance was ultimately increased.

District Officers

There were a number of district officers employed by the department who were based at the main towns in the north. These officers were originally responsible to me. Later on, three other engineers were appointed to the North West branch, one being based at Carnarvon, a second at Port Hedland and a third at Derby. The district officers then became responsible to me through their respective district engineer. Their duties were numerous but their main one was to look after the department's interests in the area in which they were based. This involved the operation and maintenance of one or more town water supplies, the maintenance of tanks and mills along the stock route in the area, the maintenance of all port structures and buildings and initially the maintenance of all government buildings in their district. This latter function was eventually taken over by Supervisors who came directly under the control of the Architectural Division of the department.

They were also required to play an important part in public relations. In the sixties there was an extensive expansion in the mining, pastoral and agricultural industries in the north of the State and there was a continual stream of top public servants, ministers both State and Federal, financiers, economists, company executives and even the friends of the friends of the foregoing visiting areas between Carnarvon and Wyndham. They normally had the sense make their visit in the "dry". They came by boat. They came by plane and some even came by car. One of the duties of the officer was to meet the plane or the boat, book them into the local hotel or government accommodation and show them what they wanted to see.

Wyndham District Office

The Wyndham district office was located in the front of the old gaol in O'Donnell Street, which together with Foreshore Drive were the only two streets in Wyndham proper. Strip development must have had its origin in Wyndham. O'Donnell Street, which was the main street nestled alongside the 1000 feet high Bastion Range on the east. Foreshore Drive, a complete misnomer, ran for a short distance along the high water mark of the dark chocolate coloured waters of Cambridge Gulf a dozen or so yards on the west. One mile to the north and across a tidal marsh was the port of Wyndham.

This was the end of the road from Perth 2000 miles away. To the south, the only road out of Wyndham followed the Bastion Range for a mile or so on the east and Cambridge gulf on the west. There was then a small settlement three miles from Wyndham town, called unimaginably the Three Mile. There were a few houses here and there scattered along both sides of the highway. This area ultimately became the main part of the town in the late sixties. Further down the track, precisely six miles from the town was another settlement which comprised a hotel, one house and the turn off to the Wyndham airport. This area, in keeping with the general naming of localities in the region, was called the Six Mile. The hotel was called the Six Mile hotel. Residents of the other Kimberley towns when visiting Wyndham used to suggest that Cambridge Gulf was the posterior end of Australia and that Wyndham was sixty miles up it. The residents of Wyndham would retaliate by saying to the visitor, "if that is how you see it then we must assume that you are just passing through."

The district officer at Wyndham was Alan Donovan, a legend in his own time. He belonged to the old school of bushmen and told the tallest stories of anyone I have ever met. His office consisted of three rooms. He occupied one of the front rooms, which was also the cement store and bolt store. The second room was the transient room which was reserved for visiting departmental officers. I often used to stay here when I visited Wyndham. The third room was the store, which was mainly filled with valves, water supply fittings, mill parts, tins of paint and rolls of hessian. Alan had a most unusual filing system. When he picked up the mail from the post office he would place the letters, unopened in the glove box of his utility, with the intention of opening the mail at some later date. He would then forget them. This was why many of the letters from both Perth office and Derby were never answered.

The Visit of the Governor General

On one occasion, at the start of the wet season the Governor General and his entourage paid a visit to Wyndham. The arrival by air at the Wyndham air port was scheduled for late in the morning. It was one of those "three hundred days" - 100 points of rain, 100 percent humidity and 100 degrees Fahrenheit. The whole of Wyndham was out at the airport to meet the plane.



O'Donnell Street Wyndham, taken from the veranda of the Wyndham Hotel, looking along the only road out of Wyndham. The shops from right to left are Bill Flinders' agencies, the general store run by Arthur and Doreen Vagg, Myrtle Woodland's cafe, the only eating place in the town and Bessie Wylie's newsagency and taxi service.



The Ord River Diversion Dam, which was opened by the Right Hon. Sir Robert Menzies on 20th July 1963. The Dam impounds 80,000 acre feet of water with a three mile length of dam including levees and has a 1,100 feet length spillway. Elsa, Yvette and Gregory are standing on the downstream side of the dam with some of the 20 radial gates in the background. The full flood discharge over the dam is 1,000,000 cubic feet per second.

This was the end of the road from Perth 117 miles away. To the south, the only road out of Wyndham followed the Eastern Range for a mile or so in the east and Cambridge Gulf on the west. There was then a small settlement three miles from Wyndham town, called informally the Three Mile. There were a few houses here and there scattered along both sides of the highway. This area ultimately became the main part of the town in the late sixties. Further down the track, precisely six miles from the town was another settlement which comprised a hotel, one house and the turn off to the Wyndham airport. This area, in keeping with the general naming of localities in the region, was called the Six Mile. The hotel was called the Six Mile Hotel. Residents of the other Kimberley towns when visiting Wyndham used to suggest that Cambridge Gulf was the posterior end of Australia and that Wyndham was sixty miles up it. The residents of Wyndham would retaliate by saying to the visitor, "if that is now you see it then we must assume that you are just passing through."

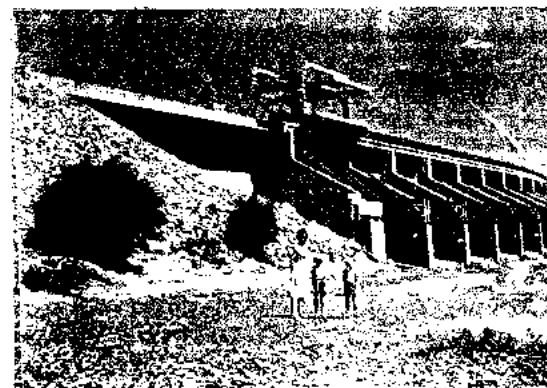
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Quite a few of the men in the reception party were wearing slacks and an open neck shirt with a coat. For some strange reason or other there were still people who felt that it was necessary to dress the same way as our ancestors did irrespective of whether it was in Little Chipping Haven, Albany or Wyndham. Alan Donovan was still a member of the old school and turned up at the airport in conventional dress. After the plane carrying the GG had circled the airport a few times it came into land. During one of these runs Alan decided that it was even a trifle hot for him so he had removed his coat and carried it over his arm. When the plane landed, the GG stepped down from the plane, carrying his coat over his arm. He immediately brushed aside the main body of the reception committee, strode over to Alan and shook him by the hand saying "I got the pilot to circle over the strip a few times so that I could see what the men down below were wearing. Thank goodness you took your coat off. I didn't want to be the only one in the party without a coat. That of course was Alan Donovan's story.

Cheeze Tin Creek

Alan would often be called on to take VIPs out to Kununurra. At that stage there was no airport at Kununurra and all planes had land at the Wyndham airport. Later some of the lighter planes used the Ivanhoe Station strip. The sixty mile trip to Kununurra was over a partly formed gravel and dirt road, which in places skirted the south bank of the Ord River. There were numerous creek crossings and some spectacular rugged scenery. Many of the natural features were named, such as Goose Hill, House Roof Hill and False House Roof Hill. Many of the natural features were not named. This, however did not deter Alan from giving names to all the features, about which some of his VIP passengers would ask. I once queried him about the consistency of his naming as I noticed that one day it would be Dead Horse Creek and the next day the same stream would be called Cheeze Tin Creek. He told me that it didn't really matter as his passenger would have forgotten the name by the time he asked the next question. This, of course was all very well and I used to wonder how much truth there was in some of his official departmental reports he fed to me. As the town of Wyndham was the forerunner of strip development, so was Alan the forerunner of his information.

Taking Over

Alan was one of those blokes who, although, only then in his mid fifties could have been over a hundred if one was to believe all the stories he told. He was in Darwin during the war and met up with an old friend of his who was a pilot in the airforce. One day, unofficially, he took Alan up for a spin in a recently acquired fighter the airforce were trying out. Once up in the air, the pilot let Alan take over the controls. Alan, of course, was also a pilot and he was able to fly the plane perfectly. Just prior to coming in to land, his friend suggested that he might like to land it on the tarmac. Not being backward, Alan took over the controls and made a copy book landing, which was observed by the Officer in Charge at the air base. When Alan and his pilot friend alighted from the aircraft, Alan was careful to fade into the distance. The OIC rushed over to the pilot and congratulated him on such a perfect landing. Alan, who was telling me the story, added, "well, the pilot could not let on that I was the one who brought the plane in, otherwise he could have got into a lot of trouble taking a passenger up in the plane, let alone allowing him to take over the controls."

A Near Sacking

My Chief, Keith Steere was a fairly quiet sort of person and never seemed to get upset. However, I remember one occasion when he did lose his cool with Alan Donovan over the non replacement of a valve in the rising water main from the King River. A replacement main line valve had been shipped up to Wyndham with the explicit instruction that the old valve be removed immediately and replaced with the new one. Prior to visiting Wyndham Mr Steere had rung Alan to check on whether the valve had been replaced. Alan assured him that the old one had been removed and a new one placed in the line. It was while we were at Wyndham that there was one hell of a burst on the main line. Water was going everywhere and the main valve couldn't be turned off. When we questioned Alan, he said that they had a new valve in the store and that we would now take out the old valve and put in the new one. My chief turned on Alan and said, "Didn't you tell me you had replaced the valve? However I will not dwell on that but I will tell you now Donovan, that if that valve has not been replaced by five o'clock tonight, you haven't a job."

The valve was replaced by four o'clock that afternoon. The next day Alan got me on the side and asked me what was wrong with Mr Steere. Alan would never have thought that the fault was his. He told so many stories that I think that in the end he believed them himself.

The Three Mile Transient House

In 1959 and 1960 the Harbours and Rivers branch of the Public Works Department, under the supervision of resident engineer Jim Butcher replaced the old timber jetty at Wyndham with a steel and concrete structure. There was a large construction team camped in an area known locally as the gully half way between the town and the port. The staff were accommodated in three cyclonic type houses at the Three Mile. Jim Butcher and the foreman Bob Dixon were both married and had a house each. The third house was occupied by some of the clerical staff and two young engineers, Bill Andrew and Glen Ketteridge. It also provided overnight accommodation for visitors from the south. I sometimes stayed there. At that time there was no electricity supply at the Three Mile and the department ran a small diesel driven lighting plant which supplied limited power to the three houses. The plant was not designed to run continually. The two young engineers had been given the job of starting the engine first thing in the morning and turning it off about ten o'clock at night. Most of the rooms were fitted with large ceiling fans which gave some relief to a part of the long hot humid nights. I remember one occasion when the Hon Minister Gerry Wild and the Under Secretary Jim McConnell were staying in the house.

It was a hot sticky night and they were both stretched out on the floor in their underwear directly under the whirling blades of the fan. I heard the minister say to the under secretary "this is the life Jim", as the coolish air mopped up some of the sweat from the two perspiring bodies. In the meantime the two young engineers who had the power of giving light or not giving light, decided to enforce this power and cut the motor. Suddenly the lights went out and the blades of the fan slowed down and then stopped. It came as a sudden shock to our two Perth visitors. It was explained to them that this was the normal procedure. The government didn't have enough money to run a standby lighting plant. Shortly after their return to Perth a second lighting plant was shipped to Wyndham.

Halls Creek

Halls Creek, which was 230 miles south of Wyndham came under Alan Donovan. When his team went to Halls Creek they used to stay at the only hotel which was then being run by Rob and Beryl Moody. The original town of Halls Creek was about eleven miles east of the present settlement. The hotel had originally been a hostel for MMA air crew flying station runs out of Halls Creek. The hotel was not flash. I stayed there several times in the "air conditioned part" of the hotel. This consisted of a large commercial type steel frame shed which had a corrugated iron roof, a concrete floor and cement brick dividing walls about two courses high. There were no doors or windows. The function of the low wall was purely to define the room area. The furnishings comprised a bed with a hard mattress and a hotel type weather worn dressing table. One cursory glance would tell which rooms were occupied and which were empty. In the cooler months I would try and get a room in the main part of the building, where natural air conditioning was not a factor.

Ablutions were something again. There was no hot water. This was not a problem during the summer months but it was different in the winter, standing under a cold shower open to the elements when the temperature could drop to a few degrees above freezing. On one visit to Halls Creek, I suggested to the gang from Wyndham that they put in a temporary hot water system, using three forty four gallon drums in the hotel ablutions for their use while they were in Halls Creek. Rob and Beryl Moody naturally accepted my offer on the basis that it be removed when the gang returned to Wyndham.

The "winter" lounge and bar were housed in a long corrugated iron shed, which the bar counter cut in half. The back half was the lounge and the front half was the public bar. To cope with the cold winters a couple of open forty four gallon drums with the tops cut off had been placed in the front bar. These were constantly stoked with anything which could burn.

The Halls Creek Road Board office was in a small corrugated iron building. The first time I visited the office I was struck by a horrible smell emanating from the building. It was as a result of all the dingo scalps, on which a bounty had been paid and which were now strung on a wire above the public counter. The Secretary was determined to keep an eye on them to ensure that he would not be paying out twice for the same scalp.



The main street of Halls Creek, taken in 1961.



Fitzroy Crossing Inn, taken in May 1962.

Kimberley Housing

The departmental house we occupied for over five years at Derby was on the corner of Loch Street and Hensman Street. On the opposite side to us in Loch Street were the police station, court house and police quarters. Opposite us in Hensman Street were the district medical officer quarters and the Derby hospital.

The house was a standard State Housing Commission North West cyclonic type house. Although cyclones did not normally strike the coast north of Broome, many of the government houses built in Derby and Wyndham were of this type of construction. They comprised of timber framed walls with long steel bolts passing through the top plate and fastened to the floor rafters. The walls were clad with fibrolite sheeting and all window openings were covered with steel shutters, which were hung vertically and could only be opened or closed from the outside. There was no glass in the opening, which was covered in with fixed flywire. The fibrolite or iron roof was also secured to the roof purlins by pipe or timber battens.

One of the problems with this type of house was that the only way the red dust could be kept out was by closing the shutters. Apart from then cutting out all light the house then became a sweat box, particularly as most of the more severe dust storms always took place when the temperature was on or above the century mark.

To gain the maximum benefit from any air that might be a few degrees cooler than inside the house, the shutters were always left opened. Even if we went away anywhere for a few days we would never close up the house. I remember on one occasion, when we returned to the house after having been away for a week or so and having had a severe dust storm in the interim, I had to sweep up the dust with a bass broom and then remove wheelbarrows of dirt using a square mouthed shovel.

Radio reception was not very good at Derby, although we were able to pick up the overseas frequency of Radio Australia now and then. On one particular overcast hot humid night we were listening to Radio Australia, when an announcement came over the radio that a cyclone with winds of up to 100 miles per hour was bearing down on the Northern Australian seaport town of Derby. The night was very still and there seemed to be no sign of bad weather, apart from the odd lightning flashes which was an accepted part of the approach of the wet season.



The main street of Hall's Creek, taken in 1961.



Fitzroy Crossing Inn, taken in May 1962.

Derby

The Department of Public Works had built a large house at the corner of First Street and Second Street. On the opposite side to us on First Street were the police station, court house and police quarters. Opposite us on Second Street were the district medical officer's quarters and the Derby hospital.

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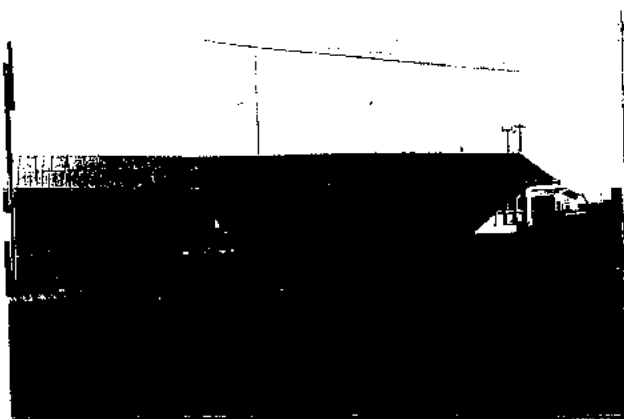
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The Public Works Department house, on the corner of Loch and Hensman streets, Derby, which was our home from mid 1960 until late 1965. This was taken in 1960 shortly after we had moved in.



The Public Works Department, Engineering Division offices in Elder Street, Derby, taken in mid 1960. The offices were occupied, from left to right by a hydrographer, the resident engineer, the district officer for Derby, the clerical officers and the State Shipping Service at the far right. Three offices were built later out at the rear for a drafting and survey section and a second engineer.

The Storm

That night we had planned to take our two children, Yvette and Gregory to the local pictures, which were screened in a very open picture "garden" on the edge of the tidal marsh at the jetty end of Loch Street. We decided to proceed with our plans and stretched out in the deck chairs with one eye on the screen and the other looking up at the sky, which was getting darker by the minute. When the pictures finished we rushed home to prepare ourselves for the approaching storm. Before retiring I made sure that all the shutters would close easily. Rather than being stifled by the heat I decided to leave them open until the last minute.

We duly went to bed and had hardly dozed off when we heard a piercing roar which cut through the night sky like the sound of an approaching railway engine. And then it hit without warning. It was probably nothing more than a large willy willy. It would have not been classed as a cyclone but it rolled a mini minor over and over down Loch Street and pushed a rake of empty railway wagons, which were fully braked, and standing in the goods yard, through a six foot high cyclone fence and down the one and a quarter mile length causeway onto the jetty, where its progress over the end of the jetty and into King Sound was prevented by a full rake of railway wagons parked on the jetty.

Derby District Office

The offices of the engineering division of the public works department at Derby were located in Elder Street at the jetty end of Loch Street and were shared by the Derby district officer, Reg Crossley, myself and the branch manager of the State Shipping Service, Arthur Hewitt. Reg, like Alan Donovan at Wyndham was responsible for the maintenance and operation of the water supply at Derby, the maintenance of stock routes, the maintenance of the structures and buildings at the port of Derby and the maintenance of some of the government buildings at Derby and Fitzroy Crossing.

I always felt a little sorry for Reg. Prior to my appointment to Derby he was the "King". He was the one, who met the plane or the boat. He was the one who went to the civic receptions, such as they were. He had bathed in this glory for nearly twelve months since the departure of a previous engineer, who was based in Derby.



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The Storm

Last night we had planned to watch our two favourite movies and keep up to the local pictures. When we arrived at the open picture 'garden' in the edge of the town, across the river and off Loch Street. We decided to proceed with our plans and sat down in the deck chairs with one eye on the screen and the other looking up at the sky, which was getting darker by the minute. When the pictures finished we rushed home to prepare ourselves for the approaching storm. Before retiring I made sure that all the shutters would close easily. Rather than being stifled by the heat I decided to leave them open until the last minute.

We duly went to bed and had hardly dozed off when we heard a piercing roar which cut through the night sky like the sound of an approaching railway engine. And then it hit without warning. It was probably nothing more than a large willy willy. It would have not been classed as a cyclone but it rolled a mini-minor over and over down Loch Street and pushed a rake of empty railway wagons, which were fully braked, and standing in the goods yard, through a six foot high cyclone fence and down the one and a quarter mile length causeway onto the jetty, where its progress over the end of the jetty and into King Sound was prevented by a full rake of railway wagons parked on the jetty.

Derby District Office

The offices of the engineering division of the public works department at Derby were located in Elder Street at the jetty end of Loch Street and were shared by the Derby district officer, Reg Crossley, myself and the branch manager of the State Shipping Service, Arthur Hewitt. Reg, like Alan Donovan at Wyndham was responsible for the maintenance and operation of the water supply at Derby, the maintenance of stock routes, the maintenance of the structures and buildings at the port of Derby and the maintenance of some of the government buildings at Derby and Fitzroy Crossing.

I always felt a little sorry for Reg. Prior to my appointment to Derby he was the "King". He was the one, who met the plane or the boat. He was the one who went to the civic receptions, such as they were. He had bathed in this glory for nearly twelve months since the departure of a previous engineer, who was based in Derby.

I also felt that he was disadvantaged by not only having the engineer breathing down his back on the job but also having him as his next door neighbour. He may have not seen it that way but I was certainly aware of it as far as the local people were concerned.

The Royal Visit at Broome

In April 1963, Her Majesty Queen Elizabeth II made a visit to Broome aboard the Royal Yacht Britannia. It was proposed that the Royal Yacht would moor in Roebuck Bay and that Her Majesty would come ashore at Broome by the Royal Barge which would tie up at the Broome Jetty. Due to the large tidal variations at Broome and the general state of the old timber Jetty it was necessary that special structural and aesthetic modifications be made to the Jetty.

As the officer responsible for the maintenance of ports in the North West and Kimberley areas of the State, it became my duty to arrange for the necessary work to be carried out. In order to accommodate the Royal Barge, a special landing was constructed at the end of the Jetty such that the landing level and the deck of the Royal Barge were the same over the rise and fall of the tide during the few hours Her Majesty would be on shore. Accurate tidal predictions and meteorological information were obtained several weeks prior to the visit together with the Broome Itinerary, which enabled the required deck level of the landing to be established.

The visit was fortunately made during neap tides, when the daily tidal range was least. If I remember correctly, the landing was set at 11 feet above low water to coincide with what the deck level of the Royal Barge would be when Her Majesty alighted from it at the scheduled time and on the scheduled day. Her Majesty was to be met at the end of the three quarter mile length Jetty with the Royal entourage, consisting of several vehicles specially brought up from Perth for the occasion. In order to take the vehicles it was necessary to place timber decking longitudinally over the full length of the Jetty.

Her Majesty duly arrived in the Royal Barge and alighted at the specially prepared landing, over which coir matting had been placed. She then climbed the short flight of steps up and onto the Jetty, was ushered into her vehicle and driven along the specially placed planks down the Jetty and through the streets of Broome to the reception committee waiting for her at the Broome Shire Hall.

As soon as the Royal entourage disappeared down the Jetty, some of the Jetty gang swiftly retrieved the coir matting from the landing and the steps as the incoming tide once again started to inundate the structure. After about one hour the tide peaked and started to drop again. Immediately it started to fall, the men were out with bass brooms, following the tide down and removing any mud deposits from the steps and landing. As the water receded, the coir matting was run down the steps and on to the landing in preparation for Her Majesty's pending departure. At precisely two hours after the Royal entourage left the Jetty it arrived back. The Royal Barge had in the meantime, berthed at the landing. Her Majesty alighted from her vehicle, walked down the few coir clad steps onto the landing and boarded the Barge, probably never ever knowing what had transpired during the two hours she was ashore and probably quite convinced, unlike King Canute, that the tide had stood still for her during her Broome visit.

The Royal Visit by Derby

Her Majesty did not go to Derby on this particular tour, which meant that Derby would have to go to Broome to see Her Majesty. It was decided amongst the Derbyites that anyone wishing to travel the 130 miles to Broome should go in convoy. It was at the end of the Wet season and the Fitzroy River was still flowing over the ford at Lange Crossing and Broome was officially cut off from Derby by road.

The Main Roads Department District Engineer at Derby, Albert Tognolini considered that the road could be passable if drivers took some care. He also could arrange for some road plant to be on hand at any of the flood prone areas, which the main road traversed between Derby and Broome. On the day of the Royal visit a large convoy of vehicles set off just after sunrise for Broome. We knew that we would all get fairly dirty from the trip and felt that we would have ample time once we got to Broome to shower and change.

The first 30 miles or so of road from Derby as far as the Yeeda turnoff was OK and produced no problems. We crossed Yeeda Creek and continued on to Lange Crossing, where we were met by the raging waters of the Fitzroy River. The road dipped down the river bank and terminated in the swirling waters. On the far side the road again rose out of the muddy waters. All that could be seen connecting the two sections of road was a low standing wave, marking the upstream edge of the timber crossing.

Before commencing the crossing we took the added precaution of removing the radiator belt to prevent any water from splashing up on the engine and knocking out the electrical system. Nothing could be worse than suddenly stalling half way across the river. We also put a short length of hose over the exhaust pipe to lift the outlet above water level. And then ever so slowly we descended down the bank into the river, keeping the standing wave on our left and the far side straight ahead. Crossing the ford required complete concentration. At times it was a little worrying when the steering became quite light and it felt as if the vehicle was about to loose traction. This of course was due to the vehicle starting to become ever so slightly buoyant. It was a relief to reach the other side and start climbing up the bank out of the river.

A little further on we then came to an almost impassable part of the road, where every vehicle had to be dragged on a side track around the flooded sections. This involved an effort from everyone in getting each vehicle through the bottomless mud. It also took up most of our time, in that we did not arrive at Broome until just shortly before Her Majesty was due to arrive at the Broome Shire Hall. We therefore had no time for a shower and seeing that the trip had been made specially to see Her Majesty, we considered that now we were at Broome, shower or no shower we had better join the other fifty or so people waiting outside the Shire Hall to catch a glimpse of her. And so there we stood, thirty or more unkempt, dregs of humanity, looking as if we were all wearing long brown socks but in fact were only showing testimony to the mud we had accumulated on our trip down.

Then after two hours or so we set off on the 130 mile return trip to Derby. By the time we had been dragged through the mud and we reached the Fitzroy River it was quite dark. The night crossing was different again. This time, apart from our own lights, some one had lit a small fire on the far bank to guide us across.

At the time there was much friendly rivalry between Derby and Broome. One Broome identity was heard asking The Duke of Edinburgh at the civic reception at Broome if he could do anything about getting more amenities for Broome. He pointed out that Derby had been made the administrative centre for the Kimberley and the town was also getting a new jetty, whereas Broome got nothing. The Duke was heard to say "well I don't know about that but at least you did get us - Derby didn't!"



Royal Visit to Broome - April 1963- Crossing the Fitzroy River at Lange Crossing on the way from Derby to Broome to see her Majesty, Queen Elizabeth II. Photo taken from the Derby side.



"Meeting" Her Majesty at Broome, many hours later. The Queen is in the centre of the photograph and is wearing a blue frock, with a white hat, white shoes and matching handbag.

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The Stolen Lugger Incident

One morning I had a visit from the Officer in Charge of the Derby Police Station, saying, that he had received a radio report from the State Shipping vessel, Koojarra. He said that the ship's master had advised that his vessel had been fired upon near Point Torment, in King Sound about twenty miles or so north of Derby. The sergeant told me that he had also received another report that a lugger had been reported stolen from Broome during the last week and he felt the two incidences might be related.

The most suitable sea transport in Derby at that time was the department's forty five feet length work boat, MV Warren and which the sergeant now wished to take over and go immediately to Point Torment and arrest the alleged stolen lugger and crew. He advised me that he felt there could be some gun play and suggested that I warn my launch driver what to expect. The launch driver wasn't the least concerned and said that he thought it could be fun.

The launch driver then fueled up and the sergeant returned to the police station to pick up the rest of the Derby police force. A short time later he returned with three other constables, all armed with .303 rifles. Before boarding the launch they oiled the bolt of each rifle with grease taken from the axle boxes of a rail wagon parked out on the jetty and then fired several test shots out over the sound towards Mary Island.

They then proceeded to board the launch, which by now was taking on the appearance of a gun boat. It was just as the vessel was pulling away from the landing that the thought suddenly struck me that the town of Derby would now be without a police force. Half in fun I shouted out - "who will be in charge, while you are away?" The reply came back from the sergeant saying "You will be."

The work boat slowly turned away from the jetty and headed north down the sound. In no time it was hidden by the mangroves as it continued on its way to a rendezvous near Point Torment. As the day wore on I was becoming a little concerned as I had received no report from the Warren and neither could I raise it by radio.

When the day was approaching "last light", I contacted the Department of Civil Aviation, Derby to see if there were any planes which were or had been over the Point Torment area and to find out if they had spotted two small craft in that area of King Sound.

Shortly afterwards I received a telephone call in my office from Dixie Goddard of DCA advising me that Dick Robertson who was returning from Koolan Island in his Cessna had spotted two vessels slowly moving up the sound and that one appeared to be in tow. At the height he was flying and in the failing light he was unable to distinguish which vessel was the lugger and which was our workboat.

Elsa and I then returned to the jetty to await the arrival of the "convoy". Shortly, we picked out two faint lights in the darkness of the Sound and the steady throbbing of a diesel engine. A little while later the Warren towing a lugger came into view. It eventuated that the lugger was not a stolen one but one on charter from Broome. Apparently the crew who had gone fishing in the Sound had broken down near Point Torment, and then beset by tidal problems, mosquitoes and no radio had tried to attract attention to their plight by firing a shot over the bow of the Koojarra as it passed them some distance away. The outcome to all this was a very relieved lugger crew, a tired constabulary and a very disappointed launch driver.

As a follow on to this incident there were two other stories as told by the police and the stranded mariners which are worth relating. The police party, suspecting that the lugger they were seeking had been taken over by an armed crew decided to take no chances and got the launch driver to cut the motor some distance from the lugger. One of the more not so intrepid young policeman had suggested to his superior that it might be better if they were all to stay below deck and creep up on the "gang". The sergeant thought otherwise. He and his three constables, arms at the ready stood up on the deck at the bow of the launch, ready to engage the crew of the lugger in battle. I am not sure what commands the sergeant gave but I presume it would have been something along the lines of, "We are coming alongside to board your vessel, throw down your arms and come up on deck with your hands in the air."

The story from the marooned crew of the lugger was that they had hit on the idea that morning of firing some shots over the bow of a vessel to attract attention. They had then waited down below deck. Later in the afternoon of the same day, they heard in the distance the sound of an engine and then suddenly silence.

On looking in the direction from which the sound had come they were amazed to see an unmarked vessel with a number of men in khaki dress and holding rifles, standing on the bow of the vessel which was slowly drifting towards them. They said that some one in the party called out to them something about laying down their arms and to come up on the deck with their hands in the air. One of the crew on the lugger told me that he thought they were about to be boarded by pirates. He said were they relieved, when they heard the message repeated preceded with "police here."

The Black Rock Air Drop

In the late 50s the State Government engaged the engineering consulting firm of Maunsells and Partners to investigate suitable deep water port sites in the West Kimberley area. One of the sites investigated was at Black Rocks, 15 miles or so north of Derby and on the eastern side of King Sound. A test pile had been driven at the site by the department and at one stage a tide recorder had been installed. It was considered, however that rather than carry out any development in this area that the old timber jetty at Derby be replaced in steel.

On the suggestion of my chief in head office, I decided that I should have a look at the test pile to see how it had fared over the several years that it had been in the ground. I therefore decided that one day when the tides were near top springs that I, with two other engineers, a surveyor and the launch driver should make the short trip to Black Rocks. The tidal range in any one day in King Sound could be as much as 36 feet and it was essential that we leave the Derby jetty on the rising tide to allow us to arrive at Black Rocks somewhere close to high tide. This would give us some time to follow the pile a part of the way down with the tide and see what deterioration had taken place before setting off back to Derby. We had to allow sufficient time to ensure that when we arrived back at Derby we would still be able to disembark at the jetty before the berth dried out. We had about six hours for the "expedition".

Unfortunately we left the departure from Black Rocks too late and started to run out of water on an uncharted sand bank less than a mile from the test pile site.

At first we thought we had struck a submerged object, when the boat suddenly started to rise out of the water. Some one then jumped overboard and found that the water was less than waist deep. In another minute it was only thigh deep and in no time hardly covered the ankles. We were stuck on a sand bank miles from shore in King Sound. In a little over six hours there would be about 20 feet of water over this spot. We were concerned that the work boat having an open cockpit and not designed to sit squarely on the sea bed would keel over on its side once all flotation was lost. It was likely that the boat would then start to fill with water on the incoming tide, which would not have been desirable. In the short time available after we hit the bank we removed the engine cover and the slatted seats and used them as props to hold the vessel in an upright position.

At the stage of hitting the bank, and while we were still afloat the launch driver had tried to edge the vessel over the high spot by putting full power on the engine. This type of vessel had been designed for towing and had a large diameter propeller. The result of his efforts was to dig a thirty feet length trench in the order of six feet deep at the rear of the launch. This was to no avail and we were still stuck high and dry as the water around us continued to recede. Across the mud flats and to the east was a low line of mangroves defining the eastern shores of the Sound. Across the sand banks to the west were the remaining waters of the Sound, which were quickly being replaced by mud flats. To the north was a line of mangroves extending over mud flats towards the Point Torment light and to the south, some distance away was Derby. As the tide continued to fall, we began to realize that we must be now stranded on the largest sand bank in King Sound.

We also appreciated that we would have to remain here for at least six more hours until the tide fell to its lowest and rose again. We then settled down to wait for the tide, spending most of the time floating on our backs in the only remaining pool of water, the trench which had been dug at the stern of the boat. On that particular day the temperature was well over 110 degrees fahrenheit and in no time the small pool in which we had taken respite from the heat became quite hot.

In the meantime, back at Derby, when we did not turn up at the specified time, the foreman decided that we must have broken down and were stranded somewhere in the Sound.

He immediately contacted Dick Robertson, who had one of the air charter companies in Derby and who flew over the site to see what had happened. The first thing we knew of the foreman's concern was when we saw Dick's Cessna come out of the blue and swoop low over us. We duly waved to him that we were OK and he turned the Cessna around and returned to Derby. In a short time he returned and flying at quite a low height tossed several packages out of the plane. They turned out to be a can of water, several packages of sandwiches and a carton of beer. As it was we did have plenty of water on board but no food or beer. The beer was icy cold. On the way down the carton broke open and for a short time it rained cans of beer. No one was hit and all the beer was drunk.

After we had been on the sand bank for three hours the tide turned and after another few hours, the vessel started to float. We immediately retrieved our makeshift props, started the engine and and wended our way back to Derby. It was one incident we would never live down. The engineers in the party were supposed to be experts on tides, hydrographic surveying and navigational charts and to be caught as we were was a real "no no."

Crocodiles

All the time we were stranded on that sand bank near Black Rocks the thought of crocodiles never entered my head. Although I was in the Kimberley for over five years and spent a large amount of my time near the habitat of salt water crocodiles I must confess that I never confronted one and was never confronted by one. Their presence in the mangroves could often be detected by their tracks. They used to frequent the jetty area and I believe several large ones had been seen in the mud around the jetty when the tide was out. One of the ships which used to call into Derby was the Centaur of the Blue Funnel Line. The keel of the Centaur had been specially strengthened to allow the vessel to sit on the sea bed, when the tide was out. It was essential that the weight of the vessel was distributed uniformly over the sea bed and regular inspections were made by either myself or the master of the vessel, once the berth dried out, to see how the ship was sitting. Not all low tides were during day light hours and sometimes the inspection had to be made at night time using a powerful spot light.

Captain Glen Williams, who was the master of the Centaur at the time told me how late one night he decided to check the sea bed around the keel. He said that he threw a rope ladder over the side and descended the 30 feet or so in to the inky blackness of the sea bed. Then with his torch, lighting up the underside of his ship he slowly started to plod his way through the black sticky mud along the berth face. He told me that suddenly he had a strange feeling that he was being watched by something. He quickly turned around and shone his torch in the direction from which he had come. All he could see were two red glowing embers. He said he realized that it was a crocodile probably slowly stalking him as he walked around the vessel. His immediate aim was to get back to that rope ladder as quickly as possible. And that rope ladder was somewhere between him and the crocodile. He retraced his steps, as quickly as he could, through the knee deep mud. He said that when he reached the rope ladder, he practically ran up the side of the ship to the safety of the deck.

The district engineer at Derby, David Pettersson used to make several trips to Wyndham. On one of these trips he had to carry out an inspection of the King River pools, which was the water supply for Wyndham. The King River flowed into Cambridge Gulf a few miles south of Wyndham and there were several natural freshwater pools in the river, from which the water was pumped to Wyndham.

On this particular day it was very hot. David drove out to the King River pumping station, parked his vehicle and commenced a several mile walk over rock and spinifex country to the top end of the last pool, where he able to cross over a part of the dry river bed and proceed back along the other side. By the time he had completed his inspection, he was back to where he had parked his car except it was on the other side of the river. He told me that he had the choice of either retracing his steps in the almost unbearable heat, back to the top of the last pool and down to his vehicle or else swim the few yards across the river. He said that the river looked so cool and inviting and he was bloody hot. He decided on the latter, dived in and was almost half way across the river, when he suddenly thought of crocodiles. Cambridge Gulf and the lower reaches of the rivers that flow into it are the home of salt water crocodiles. David said he was half inclined to swim back to the river bank which he had just left. He decided he had reached the point of no return, so he kept going.

In no time he reached the other side, swimming, he said more out of water than in it. He reckoned that as he scrambled up the bank, he was sure that several shapes were taking to the water from the side he had just left.

Some of the gang at the Public Works camp at Camballin had quite a lucrative sideline, by catching small freshwater crocodiles in large pools in the Fitzroy River, killing them and stuffing them for sale to tourists. The method they used for snaring the freshies was to unwind a large roll of wire netting in a waist deep pool to completely enclose a large part of the pool. The netting would then be wound up from one end, decreasing the size of the enclosure and trapping any crocodiles, unable to escape. Apparently no one lost any toes carrying out this completely illegal exercise.

Those stories were true. There are other stories concerning crocodiles which might be questionable. A friend of mine in Derby told me how one day when he was returning from Broome he came across a small crocodile on the road near Lange Crossing, which had apparently been run over. He stopped to investigate and found that it was devouring its own entrails. He said that he understood that these reptiles had a very poor nervous system and did not have a high sense of pain. He then left the crocodile enjoying its meal and carried on to Derby. He said that after a few miles down the road he began to speculate as to what would be the outcome of this crocodile eating itself. He said he wondered how it would end up. He decided that he would have to go back along the road to see what had happened to the crocodile.

When he arrived back at the place where he had left the crocodile making a real guts of itself, he was surprised but not unexpectedly to find that the crocodile was no longer there. It was quite simple he said, "If the crocodile kept eating himself, there would be nothing left of him and he would just disappear."

The other story concerns a discussion, a group of us had one Sunday morning over a few beers as to the difference between salt water and fresh water crocodiles and why most animals open their mouth by dropping their lower jaw, whereas crocodiles open their mouth by raising the upper jaw. It was appreciated that the blunt nosed crocodiles were salt water ones and the ones with the long snout were freshwater ones. The salt water crocodiles would always bite you. The freshwater ones didn't bite.

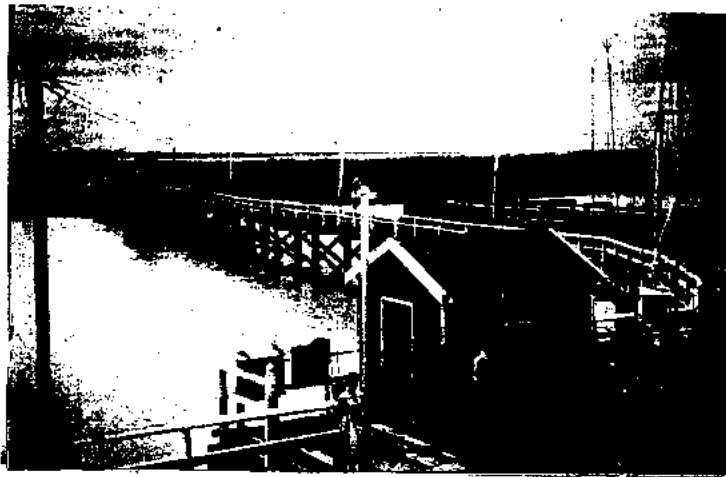
To assist in the discussion, one of our party had brought along a baby crocodile, which he had placed in a basin of water. He then proceeded to explain to us "why it was so", by using one of his fingers to point to that part of the crocodile's anatomy under discussion. The crocodile obviously didn't like this attention and made a grab at the finger and hung on. It wasn't a bad bite but it needed medical attention. The unfortunate part about this episode was that the baby crocodile died a few days later of suspected alcoholic poisoning.

Unloading at Derby Jetty

The original Derby Jetty was a timber piled and timber beam structure with a timber deck. It was L shaped, with the long part of the L being the approach neck and the short part of the L being the berthing head. There was only one berth which was the outside of the short leg. Inward and outward cargo was unloaded and loaded by ships gear and was transported by rail between the jetty head and the goodsyard ashore. Berthing of vessels at the jetty had to be carried out at high tide and when there was slack water for only a few minutes. Once the vessel was moored along side, it was necessary for the rope springs holding the vessel against the jetty face, to be slackened off as the tide dropped. The berthing of a vessel in tidal ports requires some split second timing, not only for the maintaining of water under the keel during the berthing operation but also having to combat varying tidal currents, whilst berthing.

It is for this reason that the ship's master often tries to keep some power up his sleeve should it be suddenly needed at the last moment. There was an incident at Derby, when a State Shipping vessel came in too quickly and was not able to straighten up, with the result that the bow of the ship almost cut the head in half.

The impact was so great that the transverse decking on the approach neck started to concertina and the unloading gang waiting on the jetty were knocked off their feet. The wharfinger at the time was Alec Norton, who was also waiting on the jetty. There was this ship sitting more than half way in and at right angles to the berth face. All Alec did, once he regained his feet, was to yell out to the Captain, high above him up on the bridge, "Hell. That was some berthing. Which side do you want to unload first?"



The old timber jetty at Derby, taken from the deck of a ship looking down the neck and across the mangroves and tidal flats towards the town of Derby. The building, having pride of place on the jetty was the wharfinger's office. The man standing on the left was Doug D'Antoine, the Derby District foreman and the man sitting was Reg Crossley, the District Officer. The colours are quite true. Taken in January 1962.



Yvette at the Rodeo, Derby Boab Festival in 1961.

State Shipping Service

Much of our life at Derby centred around the arrival of ships and aeroplanes. The State Shipping Service brought in the more bulky supplies, which included beer. MacRobertson Millar Airlines brought in all our perishables such as fruit, tomatoes, lettuces and other vegetables. They also provided the only form of transport in and out of Derby during the wet season. A story was often told of how the beer would always be stacked at the bottom of the hold or freezer on the ship to ensure that the other cargo had to be taken off first.

In the 60s the State Shipping Service line had seven vessels operating on the Fremantle to Darwin run. They included the general cargo vessels, Dorrigo, Dulverton and Delamere and the passenger/cargo vessels, Kangaroo, Koolama, Koojarra and Kabbarli. Subject to the cargo and passenger requirements the ships made calls to the ports of Geraldton, Carnarvon, Onslow, Point Samson, Port Hedland, Broome, Derby, Wyndham and Darwin. The arrival of one of the passenger ships at Derby was always a great event, particularly in the wet season. There was no air conditioning in the town and to step on board one of the K boats and enter the ship's lounge was like walking into a freezer. It was absolutely heavenly. The worse part was when one left the confines of the air conditioning and came up on deck to go ashore. The hot moist air, mingled with the permanent smell of rotting vegetation invaded the nostrils and felt as if one was being enveloped by a hot steamy blanket. The sudden change from cold dry air to hot moist air also gave the impression that it was starting to rain. This of course was due to the very high humidity playing havoc with the senses. After a short time the body adjusted itself again to the outside temperature and humidity.

Holidays on State Ships

In the 60s government wages employees were given leave and transport paid to and from Perth every two years. Staff employees were more fortunate. They were given four weeks leave each year with return fares to Perth for both the employee and his family, paid for by the department.



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State Shipping Service

Most of the time in 1961-62, the State Shipping Service was operating on the Fremantle to Derby run. They included the general cargo vessels, Dorrigo, Delverton and Delmore and the passenger/cargo vessels, Kangaroo, Koolana, Koolara and Koolah. Subject to the cargo and passenger requirements the ships made calls to the ports of Geraldton, Carnarvon, Onslow, Port Gibson, Port Hedland, Broome, Derby, Wyndham and Darwin. The arrival of one of the passenger ships at Derby was always a great event, particularly in the wet season. There was no air conditioning in the town and to step on board one of the K boats and enter the ship's lounge was like walking into a freezer. It was absolutely heavenly. The worse part was when one left the confines of the air conditioning and came up on deck to go ashore. The hot moist air, mingled with the permanent smell of rotting vegetation invaded the nostrils and felt as if one was being enveloped by a hot steamy blanket. The sudden change from cold dry air to hot moist air also gave the impression that it was starting to rain. This of course was due to the very high humidity playing havoc with the senses. After a short time the body adjusted itself again to the outside temperature and humidity.

Holidays on State Ships

In the 60s government wages employees were given leave and transport paid to and from Perth every two years. Staff employees were more fortunate. They were given four weeks leave each year with return fares to Perth for both the employee and his family, paid for by the department.

Generally the employee and his family would travel down to Perth by ship and return by air. The time spent in getting to Perth and returning from Perth was included as normal paid working time. The passenger ships usually called into most of the ports on the Perth run, picking up passengers from ports between Derby and Fremantle. Consequently the trip down would take anything between seven and ten days. As most of the ports were tidal, the ship would have to catch the tide for both berthing and departure.

We were fortunate that we were able to make several trips on the K boats when proceeding on leave to Perth. One memorable trip was from Derby to Fremantle via Darwin. It was during the Christmas and New Year Holiday period and by taking a few days from my annual leave we were able to spend a day or two at Darwin, living on board the ship before leaving for Fremantle. On that particular trip we were on board the Koolama for about two weeks. The ship's master was Fred Jardine, a very dour Scot, whose favourite tune was "The Scottish Soldier", which was being played constantly in some part of the ship. His favourite food was not the Haggis, as I found out on New Years Day. We were guests at his table, when the chief steward and the cook proudly ushered in this foul smelling piece of cold porridge, which they proudly announced to the Captain was Haggis, on a large silver platter. Fred Jardine politely asked his other guests, if they would like to try some. From my point of view, eating haggis on a rolling pitching heaving ship on the day after New Years Eve was not desirable. Everybody at the table thought the same way. So did Fred Jardine. He suggested to his chief steward and the cook that perhaps they might like to try some of the haggis on the other tables in the dining saloon.

Jumping Bollards

Most of the masters on the passenger ships never ever showed their other side to the passengers, if they could help it. Most of them could swear and curse as well as any land lubber but in front of their passengers they were all most correct and polite. Bringing a vessel alongside a jetty face in tidal ports was always hazardous particularly when tidal currents were running. These could suddenly take over the vessel and throw several thousand tons of ship against the face of the jetty, resulting in the loud crash of snapping jetty timbers.

When the ship was about to berth, the passengers would all crowd to the railings on the top deck to watch the berthing of the vessel, probably hoping for some excitement. The master up on the bridge would be shouting commands to his crew and also the line gang down on the jetty below. At the same time he would be aware of his captive audience on the deck just below him. Once the first line was secured and the springs winched into position, the captain would proceed to direct the mooring gang as to where he wanted the next mooring.

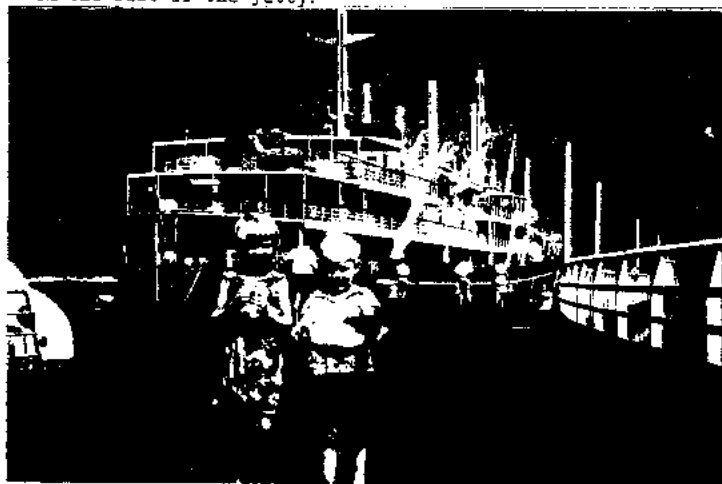
During the course of maintenance of the jetties in the north I would often have to send material from one port to the other. This material would be placed at the berth and loaded on to the ship with the ship's gear and offloaded at the next port. One of the items which was often lifted were the heavy cast iron bollards used for mooring the vessel alongside the berth. The bollards were fixed by long countersunk bolts passing through the base of the bollard and bolted to the heavy jetty timbers. On this particular occasion I had arranged for a spare bollard held in stock at Derby to be shipped to Wyndham on the Kangaroo to provide an additional mooring on the Wyndham Jetty. The loose bollard had been placed on the deck of the jetty near the jetty face in such a position so it could be lifted up with ship's gear on to the vessel.

The line gang on the jetty knew that this was to be loaded on before the ship departed. In due course the MV Kangaroo arrived at the Derby Jetty with all its passengers lining the top deck to watch yet another berthing. The ship was secured aft and Captain Harold Evans high up on the bridge started directing the line gang down below. Everytime the mooring gang started to attach the line to a bollard, Harold would call out, "No. Not that one. That one," pointing to the Wyndham bound bollard sitting on the deck. The gang called back that it was not fixed to the jetty. Harold did not hear them but kept insisting that the line be placed as he directed. So they did. The result was that the heavy cast iron bollard did a short dance along the jetty as the full weight of the Kangaroo heaved on the line. That time the captain said a few words, which were not normally the type he used at his dinner table.

His passengers who had been watching the proceedings from the top deck with some enjoyment were quite impressed.



An aerial view of the residential section of Broome taken in 1960. The conglomerate of buildings on the left centre is the Broome Gaol. Note the wall at the back. The Broome Court House is the large building on the right and the Continental Hotel is the collection of buildings not far from the foot of the jetty.



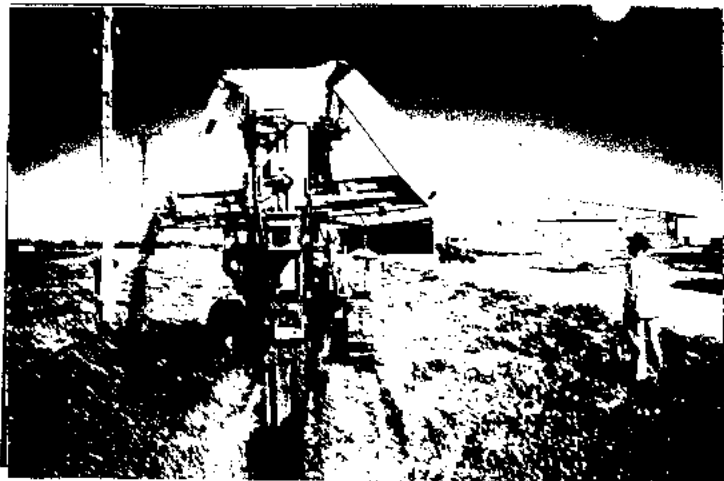
Ivete and Gregory taken on Port Hedland Jetty, in January 1964 whilst on our way from Derby to Perth on the State Shipping vessel, MV Kangaroo.



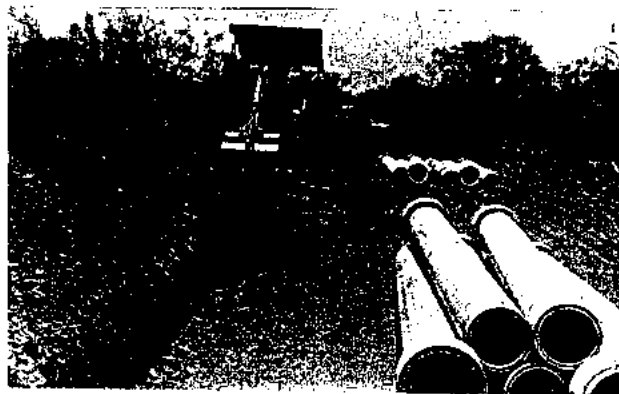
The State Shipping Service vessel MV Kangaroo at the old timber jetty at Derby in 1961. The Kangaroo was 4,129 gross tons and carried 94 passengers and cargo and was the largest of the seven ships that State Shipping Service operated at the time.



The sea bed at the berth of the new jetty, where vessels would sit high and dry at low tide. The tidal rise and fall of tide at the jetty could be as much as 36 feet over 12 hours. In less than six hours this spot could have thirty feet of water over it. I am pointing to the impression of the sea bed made by the keel of the Blue Funnel Line ship MV Centaur, which had just departed from Derby on the previous high tide.



A Barber Green ditch digger in operation at Nungarin Army Ordnance Depot in 1957. The laying of four inch diameter cast iron pipes was being carried out by the Merredin District organization for the Department of the Army.



Twelve inch diameter fibrolite pipes being laid for the new Broome water supply along side of the Broome Derby road in 1960. Prior to 1960, the town of Broome depended on hot and smelly artesian water for its water supply. In 1960 good underground water was found at quite shallow depths of 100 to 150 feet below the surface about eight miles from Broome just off the Broome to Derby road.

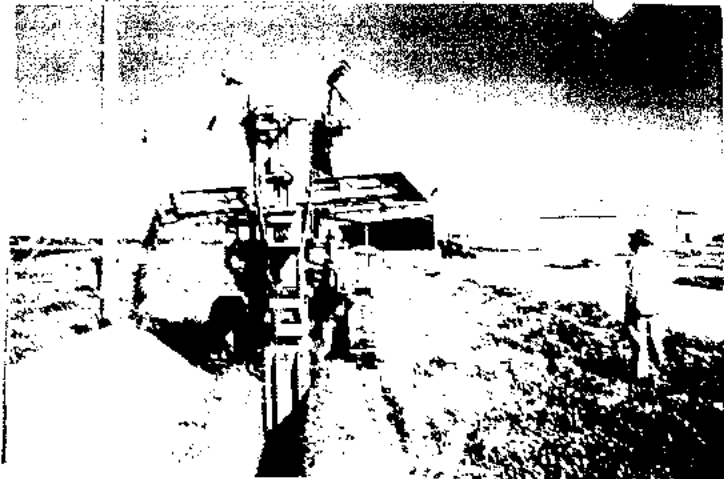
Loading Cattle

Two of the main exports over the Derby Jetty were empty containers and cattle. The empty containers as listed in the ships manifest were empty beer kegs. Live cattle were driven overland along the West Kimberley stock routes or else brought by road train to Mayalls bore and cattle yards, a few miles out of Derby and then driven around the tidal flats to the mile long cattle race leading to the Jetty. At the Jetty the cattle were held in stock yards and then driven down a single beast race along the neck of the Jetty via a hinged walkway onto the ship. The walkway which was hinged at the Jetty end rested on the deck of the ship and went up and down with the tide.

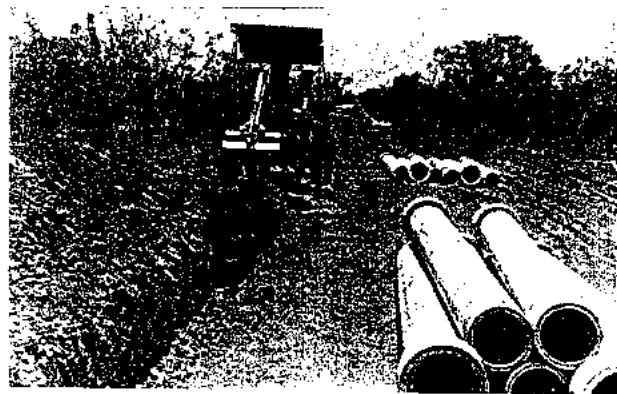
During the building of the new Jetty at Derby, which was located adjacent to the old one, the port operation had to continue in the middle of a construction area. This required close liaison between the the port operator and the Jetty builder. One of the problems was the handling of cattle in temporary races and through construction areas. At the Jetty end of the race was a large silver painted fuel tank, at which the cattle on their way to market down south would tend to balk. There was a suggestion that perhaps it should be painted a softer colour, so the cattle would not be startled by it. However, one of the local businessmen, possibly of Irish descent, considered that there would be no need to paint the tank, because he said that, in time the cattle would get used to it.

The Exodus during the Wet

During the "wet" season, now generously referred to as the "green" season, most people would try and go south for a part of the time, if at all possible. Some flew out but many chose to go by ship. Life on board the K boats was in some ways, the best part of the break from Derby. All of the passengers would have known each other and ship board life was a very friendly social affair. There were no swimming pools on the ship but this was compensated by a visit nearly every day to a port where one could at least get wet. Children made a very large part of the passenger list and everybody kept an eye on them.



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Young boys balancing on the rail on the lower aft deck was not encouraged. I remember one of the ladies from Derby, who was travelling with her five very young children made a point of continually counting them while at the same time trying to join in shipboard activities. However, State Shipping Service used to boast that they had never lost a child overboard.

Apart from the normal deck games as deck golf and quoits, the crew used to show pictures on the aft deck on most nights. There was also the attraction of the bar or just sitting in a Koolama chair on the top deck, sipping an icy cold drink and watching the rest of the world go by.

MacRobertson Miller Airlines (MMA)

In the 1960s MacRobertson Miller Airlines ran air services to nearly every part of the State. Their D.C.3s covered the southern part of the State between Leonora, Kalgoorlie, Norseman, Esperance and Perth. In the north they covered all the northern ports from Perth to Darwin and as far east as Groote Eylandt. It also included the inland towns of Meekatharra, Gasgoyne Junction, Wittenoom Gorge and Marble Bar in the Murchison and Pilbara region and Talgarno, Fitzroy Crossing, Halls Creek, Wave Hill station and Victoria River Downs station in the Kimberley and the Northern Territory.

In 1959/60 MMA put their first turbo prop aircraft, the F27 "Swan" on the Perth to Darwin run, which almost halved the flying time between Perth and Darwin. With the D.C.3s it was sometimes necessary for the trip from Perth to beyond Port Hedland to take two days, with an overnight stop at Port Hedland for the crew and passengers.

Derby was also used as an overnight stop for MMA flight staff who had to either take a plane back to Perth or else on to Darwin. It was also the centre for the D.C.3 station run and the air beef scheme from Mount House and Glenroy stations. There was a large MMA hostel at Derby. Over the years I got to know some of the flight crew quite well, particularly as I travelled extensively by air to places between Carnarvon and Wyndham.

The First Flight South

Before being transferred to Derby from Merredin in mid 1960 I had received approval from the department to take my annual leave at the end of that year. My new boss was not particularly keen for me to take leave at that time and asked me to defer it, which I was not prepared to do. In the end we reached a compromise. He would allow me to take three weeks but I had to fly down and back. There was not going to be the luxury of a sea voyage this year.

In due course the time for our departure south grew close. We had our cases packed, together with all the paraphernalia needed for a two year old and a four year old. The day we were about to leave, Derby had 8 inches of rain the previous day and the strip at the airport went out. The term "went out" was a technical way of saying that planes could not land. Sometimes it could be due to heavy rainfall and poor drainage, leaving large sheets of water on parts of the strip, which would cause the aircraft to either plane or else be pulled severely sideways on touch down. The other cause could be due to an unsurfaced strip becoming water logged or a surfaced one breaking up due to washouts. Strips often went out for some or all of these reasons, but generally it only lasted for a few days. We were not concerned. We would probably leave the next day. We wouldn't even have to unpack the cases.

The next day we were advised that the strip was still out as more rain during the night had caused more damage. And, so we waited. Each day brought the same story. In the end we resigned ourselves to staying in Derby, unpacked our cases and carried on as normal. We both couldn't help thinking then, how isolated Derby was from the rest of the State. We were cut off by road by the Fitzroy River to the south. We were cut off by sea until the next south bound ship called into Derby, which was due sometime next week and we were cut off by air until the rain stopped.

After six days we received word from MMA that they hoped that the F27 flight south would be leaving the next day. We repacked our cases, gathered together all the ancillary items and prepared ourselves to fly south the next day. Next day, the district officer Reg Crossley drove us out to the Derby airport and shortly later we boarded the Friendship Swan for our first holiday south.

Airport Parties

Over the following years I got to know the airport very well, not only as a passenger passing through the airport terminal but also as a guest at a few impromptu air "port" parties. The airport was located just off the Derby to Fitzroy Crossing road about five miles from Derby. The airport lounge was comfortably furnished and had ceiling fans. It was also set in a grassed area, shaded by trees and had somewhat of an oasis feel about it. Officers from DCA and MMA would sometimes have a barbecue out at the airport and some of the townspeople would be invited. One of the main provisos was that the place had to be kept clean and tidied up after such a show and the other was that all revelry had to cease by four o'clock in the morning. That was the time the P27 flight was due from Perth.

Coffee and Sex

One story I always liked was told about one of the well known younger co pilots of MMA. It happened on one flight of the P27 as it was making its descent into Derby. It was normal practice for the co pilot to give a brief run down on the remainder of the flight, the time of arrival at the next airport and the weather on arrival. On this occasion, the young co pilot, for some reason or other was feeling a bit jaded and was not a bit enthusiastic about the information he was imparting to his passengers. After he had finished his in flight announcement, the captain turned to him and said, "You could have at least sounded a bit more convincing. What is wrong with you?" To which the co pilot replied, "Oh it is nothing that a good cup of coffee and a woman wouldn't fix."

Unfortunately the co pilot had forgotten to turn off the cabin intercom when he had finished his announcement, so his remarks came over loud and clear to all the passengers.

One of the hostesses at the rear of the aircraft, fearing that the conversation might continue with further intimate details hurriedly rushed down the aisle to warn the pilot that the cabin intercom had not been switched off. On the way down the aisle, she was suddenly stopped by one of the male passengers, with the brief question. "Eh Miss, haven't you forgotten the coffee?"

Derby Boab Festival

From the 27th September to the 3rd October 1960 the first Boab Festival was held at Derby. There has been one held every year since. The inaugural president was Frank Harding, who was then the principal of the Derby Junior High School. The secretary was Harvey Tilbrook, the officer in charge of the Native Welfare Department at Derby and the treasurer was Pat Conway.

The festival was opened by a parade of floats along Clarendon, Johnston and Loch Streets at seven o'clock on the Tuesday evening, which was followed by the official opening and a Mardi-Gras in Stanley square at eight o'clock. On Wednesday, there was a campfire for brownies, girl guides, scouts and cubs and calcuttas held at the Club Hotel.

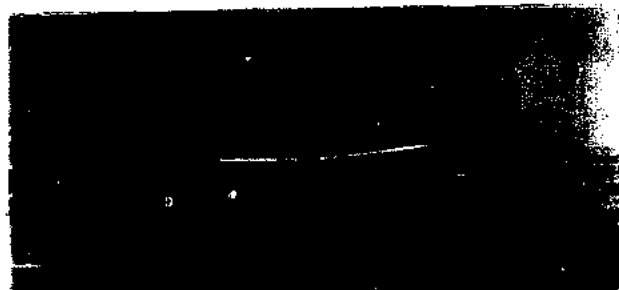
On the Thursday, the first part of the round was held with a race meeting conducted by the West Kimberley Racing Club at 1.30pm, followed by a swimming carnival at the Derby Swimming Pool.

The Rodeo and Bushman's carnival was held on Friday afternoon and a Basketball carnival took place at Stanley square that night. The main event of the festival was the Derby Cup, which was held on Saturday afternoon and the Grand Presentation Race Ball, held in the West Kimberley road board hall on the Saturday night.

On Sunday morning the Derby Bicycle club ran races in Stanley square and there was also an inter-town cricket match held in the Square. A barbecue, fireworks display and a corroboree was held in Stanley square that night.

The week long festival concluded on the Monday afternoon with an athletic carnival followed that night by the Spastic Queen Ball and the presentation and crowning of the Queen for the North.

The following year, 1961, I joined the committee. That year the office bearers were Frank Harding as president, Harvey Tilbrook as secretary, Pat Conway as treasurer. The other members of the committee were Wilf Clinch, a teacher from the High School; Arthur Nicholls, the licensee of the Club Hotel; Albert Tognolini, the district engineer, Main Roads Department; Ken Wood, the branch manager for Elders GM at Derby and myself.



Top - Elsa with Gregory (in pusher) and Yvette at the Rodeo, Derby Boab Festival, on 30th Sept. 1960.
 Centre - MacRobertson Miller Airline RMA Swan, the first turbo prop aircraft on the Darwin run, 1960.
 Lower - The Piper Cub (Pacer) charter plane operated by Dick Robertson at Glenroy station, September 1960.

Fitzroy Crossing

The small settlement of Fitzroy Crossing was on the Derby to Wyndham Road about 160 miles east of Derby. Apart from a short sealed section of road into Derby, it, like most of the roads in the Kimberley and the North West was either gravel, rock, sand or just plain dirt. In some cases, it was properly formed whilst in other cases consisted of two wheel ruts. The Fitzroy road was one of the better roads in the Kimberley area.

The settlement itself, which was located along the western bank of the Fitzroy River consisted of the hotel, the post office, the police station and the hospital, the latter being run by the Australian Inland Mission. The crossing itself was at the northern end of the town. Access to the crossing was down a very steep river bank and egress from the crossing up a similar steep bank on the other side. For four months of the year, when the Fitzroy River was in flood, the crossing was impassable and Fitzroy Crossing, like Derby, was cut off by road both to the north and the south.

Fitzroy Crossing Hotel

My first visit to the Crossing was in 1960, when I stayed overnight at the Fitzroy Crossing Hotel. At that time the hotel consisted of a number of old timber and iron buildings, flanked by a very old dilapidated weather worn timber veranda. Work had then commenced on the building of a new accommodation "wing", together with an open air bar, both of which still exist today as a part of the Fitzroy Crossing Inn. The open air bar comprised of a large commercial type farm building, set up on a concrete floor, a little above top known Fitzroy river flood level. The building was roofed with corrugated iron. There were no walls. There were two counters located in the middle of the building, one to serve the public bar and the other to serve the lounge.

The hotel, which was part owned by Dick Fallon was being run by Rusty and Joan Birch, who later moved to Derby and opened one of the first super markets in the town. My introduction to Fitzroy Crossing and indeed the Kimberley was quite memorable. My chief, Keith Steere and I were having a few drinks at the partly finished open air public bar, when we were joined by two ringers from one of the near by stations.



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Fitzroy Crossing

The small settlement of Fitzroy Crossing was on the Derby to Wyndham Road about 150 miles east of Derby. Apart from a short sealed section of road into Derby, the whole of the roads in the Kimberley and the North West was either gravel, loose sand or just plain dirt. In some places, it was properly formed wharfed in other cases consisted of two wheel runs. The Fitzroy road was one of the better roads in the Kimberley area.

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The two ringers asked if we would mind if they joined us. One of them spoke impeccable English. They were both dressed in dark trousers, heavy hobnailed boots and green chequered open neck shirts. They each carried a rolled up swag which they had propped up against the bar. The older of the two introduced himself as Bill and introduced us to his partner, whose name I didn't quite catch. He said that they were now working at Christmas Creek station and were carrying out repairs to boundary fences. The younger one, who spoke the impeccable English said that he had been out at Christmas Creek for two months and hadn't had a break since he arrived in Australia. He said he came from England and this was his first visit down under. The conversation was then quite general. They wanted to know what we were doing at Fitzroy Crossing. They felt that no one would ever come here on holidays.

At some break in the conversation. Keith Steera got me on the side and asked me if I had caught the young chap's name. He said that it sounded like Lord Angus, but doubted if that could be right. But Keith was right. It was Lord Angus. He was a most unassuming young man, who explained why he had been sent out here. He said that his father, who was a Duke, was friendly with Lord Vestey, who had large interests in cattle stations in the Kimberley area of Western Australia and also the Northern Territory. He said that his father had decided that a taste of outback life could do both of them some good. He also gave us a short discourse on the peerage and the various titles and where dukes, lords, marquesses, earls and viscounts fitted in. He also volunteered information on the Royal family and how he had taken Princess Margaret out a few times. We listened to his stories with some misgivings, possibly doubting some of them, but not letting on.

That night Keith and I retired to our very basic hotel room. Bill and Angus unrolled their swag and slept soundly on the veranda outside it. We never saw Lord Angus of Montagu after that night, although in later years his exploits in America certainly hit the headlines.

I made several trips to the Crossing during the five years I was in Derby and I never met any other lords at Fitzroy Crossing, or for that matter, anywhere else in my travels.

Sharing a room at Fitzroy Crossing

One weekend, a year or so later, Elsa and I, with our two children, spent a weekend at Fitzroy Crossing, with the intention of visiting Geike Gorge. On this trip we were accompanied by Jim and Mardi Quinn and their three children. Jim was the principal at Derby junior high school. We drove out to the Crossing in two vehicles and duly booked into the hotel. We were then shown to our rooms. There was one room with four single beds, which was for the four adults and a second room with slightly inferior furnishings for the five children. When we expressed our concern about having two couples in the one room, the young girl, who had signed us in, looked at us in amazement and said. "What is wrong with the four of yous sharing the one room. Yous married aint you?"

The School in a Cave

One of my jobs, early in my appointment was the inspection of school buildings in the Kimberley area. This was later taken over by an officer of the Architectural division of the Public Works Department. One of the most interesting schools was the State school on Go Go station, a few miles out of Fitzroy Crossing on the Halls Creek road. The headmaster, Roy Corker, had a departmental house provided at the station. The unusual thing about the Go Go school was that the whole two classrooms were in a cave in the side of a hill, only a few yards from the station homestead. The cave was lit by some natural light and had been made attractive with wall hangings, coloured charts and curtains. The school room was quite cool, even on the hottest days.

JP versus JP

Law and order at the crossing were maintained by the officer in charge of the Fitzroy Crossing police station. The officer would also act as the Clerk of Courts. Court was held at the police station and when possible was presided over by the Broome resident magistrate, who would fly into the Crossing now and then, depending on the number of cases requiring his attention. Some cases had to be handled by local justices and for this purposes Dick Fallon, the hotel publican and Vic Jones, the manager of Go Go station had been appointed as JPs.

One night, as the story goes, Vic and Dick got into one hell of an argument at the Fitzroy Crossing hotel, resulting in a fight in the lounge of the hotel. They had both had a few drinks and the local cop thought it would be better if he arrested both of them and put them in separate cells at the lockup for the night. His intention was to let them cool down and then release them the next morning, with no further harm done.

Unfortunately, when he released them the next morning, one of the pair insisted that the other one should be charged for creating a disturbance, the night before. Fearing that the argument would be re flamed, the police officer suggested that they should both be charged and let the court decide who was the guilty party. They both agreed to this. However, there was a problem. The only ones who could hear the case were the town's only JPs Dick Fallon and Vic Jones. After some discussion it was agreed tat they would try each other. A coin was tossed to see who went into the stand first, Dick Fallon lost the toss and he had to face Vic Jones in the court who admonished him for his disgraceful behavior in the hotel the previous night. He was charged with offensive behaviour and fined twenty pounds.

He was then asked to step down by the police officer, who was now acting as the clerk of courts and his place was then taken by Vic Jones. It was now Dick Fallon's turn to sit on the bench. Dick then addressed the accused in the following manner. " Your conduct last night was appalling. You are charged with disgraceful and also offensive behaviour. I will not tolerate these disturbance in our town. What is more, this is the second case of disorderly conduct which has been brought to this court today, and I propose to make an example of you. I fine you one hundred pounds."

When the Cook is in Demand

The set up with the police stations in the north was that the officer in charge of the station received a meal allowance for each prisoner in the local lockup. In some cases the officer's wife did the cooking. In other cases, one of the prisoners would be allocated to that duty. Now and then, the local hotel would engage a very good cook from the south. And sometimes, that very good cook would break the peace and end up inside, with the result that the police establishment gained an above average cook.

When the time came to release the prisoner, the lock up would lose their cook and he would return to the hotel. In the meantime, the local police officer would keep an eye on the hotel cook, just in case he stepped out of line. I know that some of the hotels used to complain bitterly about the difficulty they had in holding cooks.

The Negri Races

On one trip between Fitzroy Crossing and Halls Creek I came across a truck, which was parked on the side of the road and which appeared to have broken down. It was about eight o'clock in the morning and I thought I should stop to see if they wanted any help, I always carried a Traegar radio transmitter in my vehicle, in case of an emergency. It could not be operated while travelling and one had to stop the vehicle and erect an aerial before transmitting. It was, however some consolation. knowing that I was not completely isolated. I also felt that if I came across someone who had broken down or needed medical attention, I could at least render some assistance by having this vital radio contact.

I pulled in at the rear of the truck and was greeted by two blokes, who were completely stoned. They hadn't broken down. They were just having breakfast. Apparently they had been sent down to the Crossing the previous day to pick up the beer for the Negri races, which were being run today. Having all that grog on board was too much of a temptation, so they decided to pull up the previous night and have a few drinks. One of them confided in me that they had been drinking all night and that they had been relieving themselves against the rear offside wheel of the truck, with the result that the ground had got very wet around the wheel. He then said that when they went to leave earlier that morning they ended up getting bogged.

I was then asked if I would like to stay and have some breakfast with them. I had to decline. Warm beer at half past eight in the morning was never my cup of tea.

I duly left them and proceeded on to Halls Creek. About one hundred miles down the road I was flagged down by another vehicle asking me if I had passed a red Bedford five ton truck further down the track. This was the search party, who had been sent out by the race committee.



Native stockmen at Geike Gorge, on the Fitzroy
River a few miles out of Fitzroy Crossing



The School in a Cave at Gogo Station, a few miles
out of Fitzroy Crossing on the Halls Creek road

Kimberley Roads

All of my driving around the Kimberley region was done in a conventional drive vehicle. There were times when a four wheel drive vehicle would have been quite handy. At the same time a four wheel drive might have got me into more trouble than it would be worth. I remember seeing a D8 Caterpillar dozer bogged down to the top of its engine cover in black soil country near Camballin. It took several weeks to dig it out, using two other tractors and a dewatering pump.

Driving hazards were many and varied. In the dry season from April through to November, there were dry sandy and rocky bed creek crossings, stony jump ups and pot holes filled with fine soft red sand, the same colour as the road surface. There was also the fine powdered dust, which seemed to hang in the air for ever. On the road there were always cattle either on the hoof or else being conveyed by road train, the latter stirring up the dust for miles.

One of the first vehicles I drove in the Kimberley was a Ford Zephyr station wagon. I was given a station wagon in order that I could convey any visiting dignitaries in some style and perhaps some comfort while they were in Derby. The vehicle did not run to airconditioning. This was an extra, which was only granted to more senior employees who drove around in Perth. This station wagon was notorious for letting in dust. There were even double seals on the rear door, which would not keep the dust out. I complained to Perth office. I complained to the agents. The only reply I got was that I would just have to accept it. There was no way of sealing the vehicle to eliminate the dust problem. Then one particularly hot and dusty day I had a visit from Charles Court, who was then the Minister for Industrial Development and the North West, and who wished to go out to Camballin to inspect the irrigation project. By the time we had driven out to Camballin and back to Derby, we were both covered in fine red suffocating dust, courtesy of the Zephyr.

A week later I received advice from Perth, that arrangements were being made to ship a new Holden station wagon to Derby on the first available ship.

In the wet season, road traffic practically ceased, due not only to road surfaces, many miles of which were untreated, but also due to the constant flooding of creek and river crossings.



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Many sections of road were often impassable, for a short time after the wet, as the Main Roads Department would have to remove sand and flood debris from most of the creek and river crossings and reinstate the roads through those crossings. One of the worst areas where vehicles came to grief was in the taking of short cuts across the tidal flats around Wyndham and Derby. In the wet season, irrespective of the tide, it was not advisable to even set a wheel on the flats for obvious reasons. During the dry season, the flats were quite passable in a conventional vehicle during neap tides. In neap tides large areas on the shoreward side of the tidal flats, or marsh, would remain quite dry for a week or so, allowing short cuts to be made with immunity. During spring tides, the marsh would be completely inundated twice a day and the surface of the whole area would be quite soft for several days.

Derby Leprousarium

One of the places often frequented by Derbyites was the Leprousarium which was located north of Derby on the eastern shore of King Sound. The officer in charge, Keith Davies and his second in command, Brian Ewing, together with their staff would often entertain people from Derby. The staff quarters were set amongst sweeping lawns with stands of frangipanis, oleanders and poincianas. Compared to Derby, it was an oasis. By a formed road it was about fifteen miles from Derby. By taking a short cut across the marsh it was about eight miles. There were several reasonably marked wheel tracks across the tidal flats. Even so, many a vehicle got bogged late at night returning from one of Keith's and Brian's very hospitable parties. I should add that many of the newcomers to Derby used to express some concern when being invited out to the Leprousarium. They were always told that leprosy was not contagious or if it was it took about one hundred years to develop.

Golf in Derby

The Derby golf course was "laid out" around the race course, about a mile out of town. It had sand greens and there was no demarcation between the fairways and the rough. One of the local rules, which always impressed me, was that one was permitted to set fire to the spinifex on the fairway to look for a lost ball.



A section of the main road in the East Kimberley between Halls Creek and Wyndham. Taken in 1961.



The road between Wyndham and King River Pump Station 1961

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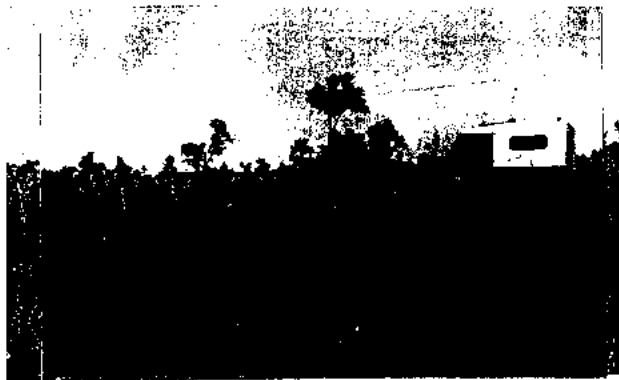
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The road between Wyndham and King River Pump Station 1961



Anthills alongside the Derby to Broome road in 1960.



A 120 feet length cattle road train on the Derby to Broome road in 1960. The presence of these vehicles could always be detected miles away by the clouds of red dust which would be following the train. It was almost impossible to overtake them due to the poor visibility and the unknown road conditions ahead.

Derby Jetty

Under a multi million pound Commonwealth assisted port development programme, new jetties and port facilities were to be provided at Wyndham, Derby and Broome, the three major ports of the Kimberley region. The new Derby Jetty was built on the southern side of the existing timber jetty. The new jetty comprised of a 758 feet long curved approach, 26 feet wide, leading to a 516 feet long berth, located in approximately the same depth of water as that at the old jetty. At the southern end of the berth a 18 feet wide structure led back to the shore. This structure carried a roadway for the in and out movements of jetty traffic and a cattle race to a loading ramp on the jetty. Along the same alignment of the berth and to the south, there were two dolphins which allowed two coastal ships of up to 300 feet in length to be berthed at the same time.

Apart from the abutment piles all the tubular steel piles in the structure were pitched and driven using floating plant. The steel super structure was placed using jib cranes working from the partly completed jetty deck. Due to the tidal variations at the jetty, it was only possible to manoeuvre the pile driving barge and drive piles whilst there was still flotation. The whole area over which the piles were to be driven dried out completely at low tide and all floating plant sat on the dry sea bed until the next tide. There were two tides a day, which ranged from a top of 36 feet down to zero feet during Spring tides and from about 25 feet down to 10 feet or slightly less in Neap tides.

Pile Driving Signals

As the piles had to be driven at various rakes and had to be cut off at different levels it was necessary to position all piles, using x,y and z co-ordinates. There were two survey stations on shore, which used both triangulation and levelling to position the pile. My initial foreman on the project was Bob Dixon, who had cut his teeth on pile driving and who I had met when I first worked as a student engineer at Fremantle Harbour Works in 1944. Bob, who belonged to the old school did not have much time for these new fangled walkie talkies for the conveying of messages between the surveyor and the pile driving barge and preferred to use his tried and tested signals.



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The signals used by Bob were simple. If the barge had to go ahead to get on line, the surveyor would place both of his hands on his head. If it had to go astern, the surveyor would place both his hand on his back side. He would indicate port and starboard movements by simply giving a definite arm movement to the required side. If he vigorously flapped his arms up and down it meant "cancel that last message." Bob, usually preferred to be on the pile barge, where the action was taking place. At times he would come ashore and stand by the surveyor and convey the instructions back to the man in charge on the pile barge. Bob also had other signals, which he would convey by hand and finger gestures when it appeared his instructions were being ignored. Due to the general noise of construction plant in the area and the distance the pile driving barge was from the survey stations, it was impossible to communicate by word of mouth.

Then along came radio. Bob was, at first reluctant to use the walkie talkies we had scattered through the job. What converted him in the end was that it gave him the ability to vent his feelings by word of mouth instead of having to jump up and down on the spot giving various versions of the "V" for victory sign. He also found that he could now convey his instructions more colourfully than by the use of hand signals. He had to be told several time that his conversation was probably being monitored and perhaps he should tone his instructions down a little. He never did.

The Last Pile

There were two ceremonies connected with the building of the Derby Jetty. One was the official opening ceremony in October 1965, performed by the Minister for Works and the other was the driving of the last pile in which most of Derby participated. The latter ceremony was marked by everyone present placing their hat on top of the last pile, once it had been pitched in position and before the monkey was dropped. The understanding was that, the hats could be retrieved by their owners after the driving of the last pile had been completed. It was also explained that there might be a problem in separating the hats from each other after being pounded for a few minutes or more by the continuous six feet dropping of a five ton steam hammer. I also lost my best Akubra.

The Matchbox Pile Driver

One of the points to watch in driving a large number of piles is to ensure that the pile barge has access to every pile position and does not get hemmed in by piles already driven. The foreman Bob Dixon found that one of the best devices to use to work out the order of pile driving was an ordinary matchbox. It so happened that the matchbox was equal to the same size of the pile barge on the pile layout drawings. Before setting up the equipment he would use the matchbox to work out his pile driving sequence and the position of the pre placed moorings for the barge.

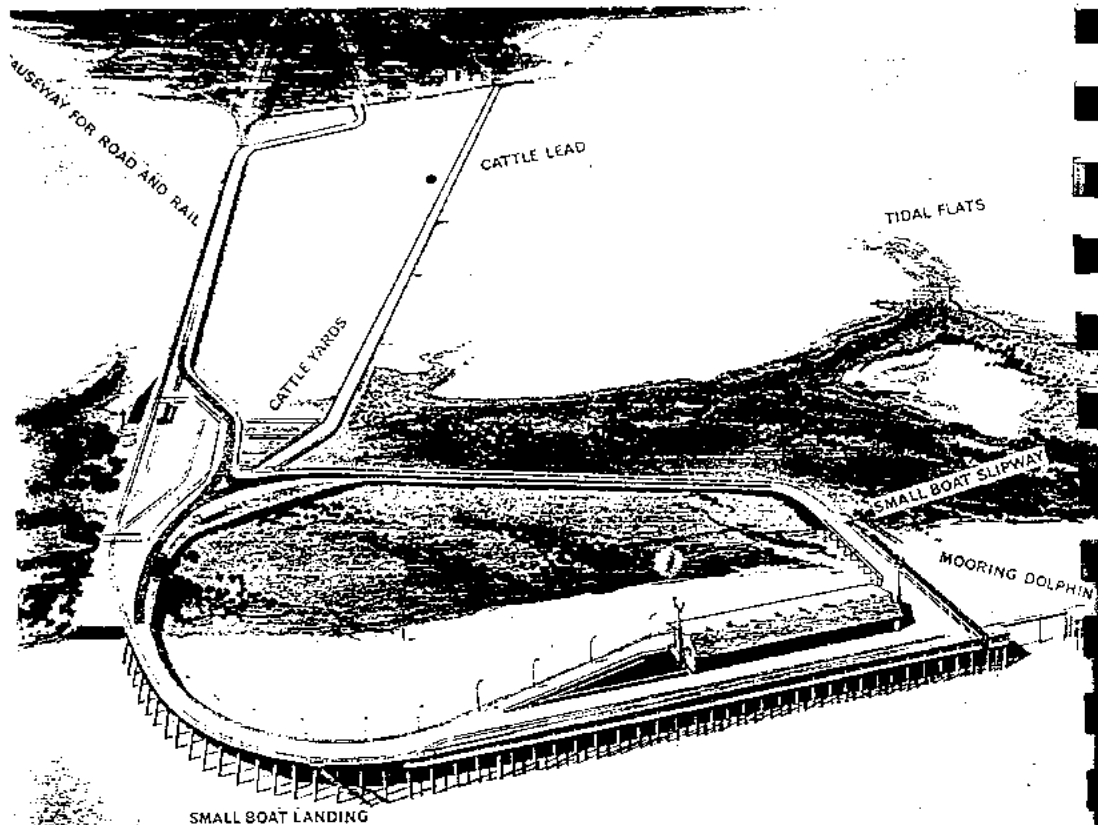
The Cattle Race

The cattle loading set up with the old jetty was that cattle were driven around the tidal flats, south of the town, down a mile and a quarter causeway to holding yards on reclaimed land near the foot of the timber jetty. The causeway, which also carried the railway line from the jetty to the goodsyard ashore provided the only road access to the jetty. Under the changed set up a separate road access to the jetty was being provided along the upgraded existing causeway. A cattle race of 6,300 feet length was to be constructed over the tidal flats south of the roadway, together with cattle holding yards adjacent to the south neck of the jetty.

The new yards and races were built of steel uprights with timber rails. The races were tapered in cross section, with the narrow part being at ground level. The idea was to prevent any beasts from turning around in the race and stopping the smooth run of the cattle between the holding yards and the ship.

As a safety precaution, the race was broken in several places to allow anyone caught in the race to quickly escape from a pending "stampede". The escape sections were known as man escapes and their dimension on plan were to be determined by the width of the largest person who would have occasion to be in the race. To obtain this information we had a pair of calipers made, which we used on all the locals, so that I could fix this measurement before proceeding with the erection of the steel portal frames in the cattle race.

The winner was a well known business man, station owner and Road Board Chairman Bob Rowell.



An artists impression of the completed Derby Jetty. The causeway for road and rail on the left was a prolongation of Loch Street. Access to the road was via Clarendon, now the town's main commercial centre.

The 274 feet length by 42 feet width, 800 ton capacity goods shed under construction on the Derby jetty. There was an apron of 41 feet width from the front of the shed to the ship and a 26 feet width depressed roadway at the rear of the goods shed.



Trouble in the Derby Camp

There were often disturbances in the singlemens camp at Derby due to a mixture of boredom, alcohol and heat. The camp, which was located in Clarendon Street, was only a few chains from the Club Hotel, and comprised a number of 12 feet by 10 feet corrugated iron huts which were clustered around a central core of buildings comprising the workers' mess, kitchen, amauties building and ablution block.

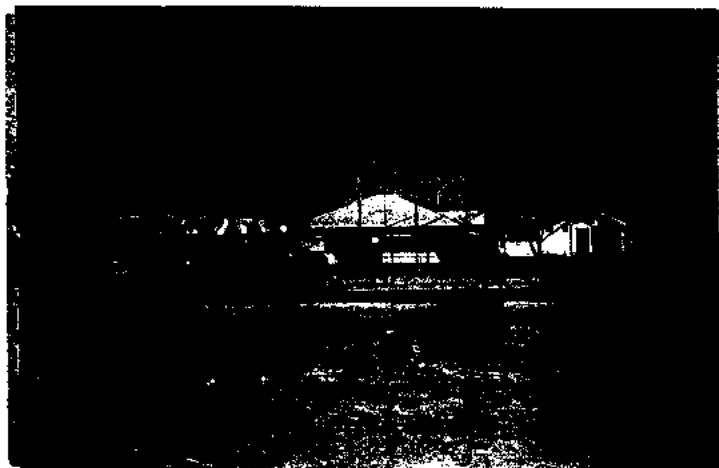
One Sunday afternoon I had a visit from one of the constables from the police station opposite our house, advising that he had received an urgent phone call from one of the locals saying that a man in the public works camp had run amuck and was firing rifle shots indiscriminately around the place, and as I was the official "owner" of the camp he wanted me to accompany him down there to help sort out the problem. I was not that impressed by his request. However, I felt I had no choice but follow him to the camp, which was only a short distance from our house. When we arrived at the camp, all was quiet and any of the people who had been inside it had retreated to the relative safety of Clarendon Street. I found out from them that the rifle shooter was my intrepid launch driver, who they said had been raking the camp from the doorway of his tent with an automatic .22 rifle. The constable, who I knew quite well, suggested, that as I knew the launch driver, it would probably be better if I went to his hut and had a talk to him first.

I was even less impressed. Anyway, I decided that what had to be done had to be done, so I left the constable standing outside in the street and made my way gingerly down the camp dividing fence, so that I ended up at the back of the launch driver's hut. It felt safer approaching his camp from this direction, but in hindsight it was possibly the wrong thing to do. At that stage I had not been guided by Homicide or Division Four. Before I left the "safety" of the three wire strand fence, I called out to the launch driver by name, saying who I was and asked if I could come and talk to him.

He replied grudgingly, "Yes. OK come on in". which I did. He seemed quite composed and told me how he had had a row with his girl friend and had been letting off steam by firing a few shots up into the air. From what I can remember of the incident, I can't recall any charge being laid. I do know that I was very relieved.



Loch Street, Derby, looking east. One of the two general stores, Kimberley Traders is on the far right. The next building was Aylings store and milk bar. The open air picture gardens, hidden by the Boab trees are on the left.



The Public Works Department camp in Clarendon Street, Derby.

Aboriginals and Alcohol

I had about fifteen or more full blood natives working on the construction of the Derby Jetty. The law then as related to alcohol was that only those natives, who had been granted drinking rights were permitted to drink. It was an offense for a native, not having drinking rights to consume alcohol. It was also an offense for a white person or a native with drinking rights to supply alcohol to a native who did not have drinking rights. One of the tribal elders in the town was Paddy Moolumbum, who, though his standing in the aboriginal community, had been granted "rights". Paddy enjoyed a drink or two. Also, his most charitable nature, a feature quite common to the natives in the area, also got him constantly into trouble. He would often share a bottle with one of his mates who had not been granted the right to drink, with the result that both Paddy and his mate would get caught and end up inside.

I became very much aware of this law, when it came to the holding of functions at the Jetty construction workshop prior to the Christmas break. As I always put a keg on at the Christmas show, I had to be sure that the employees who were enjoying the free beer also had been granted the rights to drink that free beer.

I discussed this with the local sergeant, prior to having the first such function. His words still ring in my ears. He said, not very politely, "Well boy, I am telling you this. If you get caught supplying grog to anyone without drinking rights, you will go!" I didn't like the sound of that so I replied, "OK then Keith, how do I know the ones with rights and the ones without?"

He replied, "You don't know. However, if you ask me to your Christmas show I will keep an eye on the ones who haven't got the rights and that will take the onus off you." And, this is what I had to do at all such functions. I am sure the rest of the gang did not appreciate being constantly watched by the sergeant as they downed their Christmas cheer. However, I do know that the sergeant did enjoy himself at these breakups and no one without the drinking rights was ever seen consuming alcohol by him.



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North West Branch Organization

For six months or more, prior to my transfer to Derby there had been no engineer of the North West Branch of the Public Works Department stationed outside of Perth. There were, however a number of district officers based at various centres from Carnarvon to Wyndham, who all reported directly to engineers based in Perth office. With my appointment to Derby, it was intended that I would head a field organization, where all field staff would normally report to me. To implement this I was eventually given an assistant engineer and three district engineers. Tom Herzfeld was appointed to Derby as my assistant engineer. Tom, who I considered was a very efficient engineer later entered parliament and was the member for Mundaring in the Charles Court government.

The new field organization worked fairly well. Water supplies were upgraded in all the North West and Kimberley towns and several improvements were carried out to the cargo handling and storage facilities at the ports of Wyndham, Derby and Port Hedland.

District Engineers

David Pettersson, with whom I had worked at Lake Grace in the early fifties was appointed to Derby as district engineer. He had three district officers under him, Alan Donovan at Wyndham, Reg Crossley at Derby and Max Kerr at Broome.

The district engineer appointed to Port Hedland was Erwin Schenk, who had migrated from Austria, shortly after the war. He was a very sociable person and I felt that he deserved a lot of credit for the public relations he developed with the various mining companies being established in the Pilbara region in the early 60s. David Nelly was his district officer at Roebourne and Clarry Castledine was his DO at Port Hedland. He was also heavily involved with the development of Wittenoom, which was then the largest town north of Carnarvon.

Byron Cornish, an ex Harbours and Rivers branch engineer was based at Carnarvon. Byron was the resident engineer on the widening of the end of the Busselton Jetty in the early 50s, when I was at Bunbury. Byron had three district officers under him, Ray Odgaard at Onslow, Eric Jones at Exmouth and Dennis Stocker at Carnarvon.

The First Engineering Division Reorganization

In 1962 a substantial reorganization of the engineering division of the department took place. The previous branch in which I had worked, the Goldfields Water Supply Branch lost its identity of nearly sixty years and was absorbed by a new branch, the Country Water Supply Branch. The North West Branch, which I considered was functioning quite well was the next to be dissolved, its activities being transferred to other existing or newly formed specialist type branches. My chief, Keith Steere was transferred to the office of the Director of Engineering as an Executive Engineer, whilst his very able assistant, Malcolm McCleery, was transferred to the new Country Water Supply Branch as the Senior Engineer for the North. The other two Perth based engineers, Keith Abercromby and Kevin Merchant were also transferred to the water supply and the field engineers, Dave Pettersson, Erwin Schenk and Bryan Cornish became district engineers under the Country Water Supply Branch. Tom Herzfeld was transferred to the newly constituted Construction, Major Hydraulic Undertakings Branch.

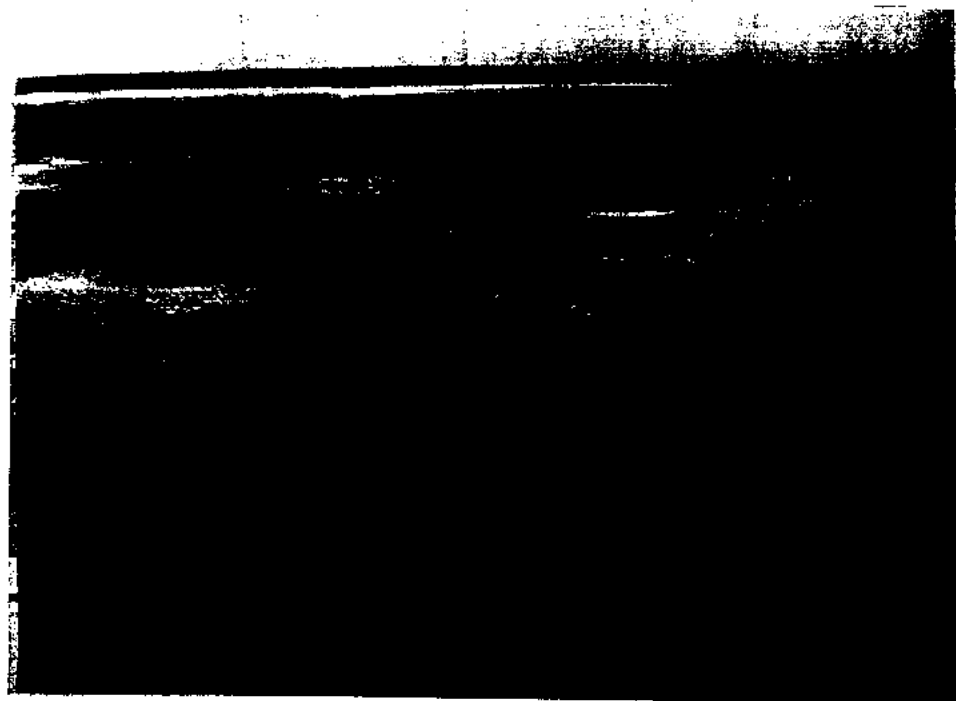
Just prior to these movements I had been seconded to the Harbours and Rivers Branch for the building of a new steel and concrete jetty at Derby. For a very short time I was both Resident Engineer for the North West and Resident Engineer for Derby Harbours Works. When the North West Branch was abolished I was transferred to the Harbours and Rivers Branch at Derby.

For the last two years I was at Derby, I was mainly involved in the construction of the new Derby Jetty. Sometime in August 1965 Elsa had a visit from a lady, who told her that her husband who was an officer in the Agricultural Department had been advised that he was shortly being transferred to Derby. He had also been told that a government house would shortly become available on the corner of Loch Street and Hensman Street, as the present occupants were being transferred to Perth.

This is how we found out about our pending transfer.

On the 14th October 1965, the new Derby Jetty was officially opened by the Minister for Works and Water Supplies, the Hon Ross Hutchinson D.F.C., M.L.A.

On the 15th October 1965, after having previously sold our furniture and Elsa's much loved Austin A 30, Elsa, Yvette, Gregory and I boarded the RMA "Swan" for our last trip south from Derby.



An aerial view of the port of Derby with the town in the background taken in 1965 during the final construction stage of the new Jetty. Pile stumps remaining from the old timber jetty can be seen on the left side of the left hand abutment of the new jetty. The reclaimed land at this abutment was for the provision of the goods yard and cattle holding yards. The causeway across the tidal flats on the left was to carry the road and other services, whilst the causeway on the right was to take cattle. Early in 1965, the State Shipping vessel Koojarra collided with the old jetty putting it out of commission. Rather than carrying out repairs to the old jetty it was decided to prematurely commission the new partly completed jetty. For several months the loading and unloading of cargo was taking place in what was still virtually a construction site. The first ship to officially use the new jetty after it was opened was the Blue Funnel Line MV Centaur. The completion of the Jetty also coincided with the completion of my twenty years in the field.

TWENTY YEARS IN THE FIELD

ENGINEERING ANECDOTES OF THE MID FORTIES TO THE MID SIXTIES

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Bruce Rock	94	Dalwalliau	55
Bullfinch	94	Daly Phyl	45
Bunbury	71	Daly Trix	45
Butcher Jim	120	Darling Ranges	26
Butson Frank	34	Darwin	146



An aerial view of the port of Derby with the town in the background taken in 1965 during the final construction stage of the new jetty. Pile stumps remaining from the old timber jetty can be seen on the left side of the left hand abutment of the new jetty. The reclaimed land at this abutment was for the provision of the goods yard and cattle holding yards. The causeway across the tidal flats on the left was to carry the road and other services, whilst the causeway on the right was to take cattle. Early in 1965, the State Shipping vessel Koojarra collided with the old jetty putting it out of commission. Rather than carrying out repairs to the old jetty it was decided to prematurely commission the new partly completed jetty. For several months the loading and unloading of cargo was taking place in what was still virtually a construction site. The first ship to officially use the new jetty after it was opened was the Blue Funnel Line MV Centaur. The completion of the jetty also coincided with the completion of my twenty years in the field.

DERBY TOWN AND PORT DIRECTORY 1965

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Allison Tom 107	Carrapin 108
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	Clinch Will 116
Bates Street 117	Collie 118
Benoubbin 119	Conway Pat 120
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GLOSSARY

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Drainage Appeal - page 33 -

One of the charges raised against land holders related to the cost of providing a drainage outlet from their farmland. This charge or rate was fixed by law. However, farmers could appeal against the rate. It then fell to an officer of the department to make a re assessment of all the factors giving rise to this charge and recommend an adjustment if considered necessary.

Services - page 34 -

The word service refers to a water supply service, which may or may not be a metered water supply connection from the main.

Plod Card - page 55

A plod card was a small card measuring about 4 inches by 3 inches on which was recorded the name of the worker, the time he or she commenced and finished the shift, the hours worked, the rate at which the worker was to be paid (such as laborer, leading hand, tradesman assistant etc.) and what part of the job his or her time was to be allocated (such as the pouring of concrete, digging trenches, laying pipes etc.). These cards were then used by the wages clerk to make up the pay and by the cost clerk towards the preparation of the cost sheets. The cards were later superseded by time sheets in book form.

Rising (water) main - pages 60 and 119

A rising main usually refers to the pipeline through which the water is pumped from the source (bore, dam etc.) up to the storage tanks, where it is distributed through gravity mains to the consumer. Sometimes a part of the rising main can also double up as the gravity main.

Calcutta - page 149

A calcutta was a term used in horse racing where the punter placed his bet on horses in different races. In order to win overall, the punter had to win on the horse he had backed in each race.

Dolphin - page 161

A dolphin is the term used for an isolated marine structure against which ships can be berthed and/or moored.